
Introduction

This document describes the software features available with the system. The features are described in feature modules *arranged alphabetically by feature name*. Each feature module contains the following information:

- Feature description
- Operating parameters
- Feature interactions
- Feature packaging
- Feature implementation
- Feature operation

Feature description Immediately following the title, a description provides an overview of the feature.

Operating parameters These details explain the hardware and software required or prohibited for operating the feature.

Feature interactions An interaction description explains how the feature is affected by, or affects, other features. When two features are mutually exclusive, they cannot be active in the system at the same time.

Feature packaging A brief list provides the package information (name, number, and mnemonic) for the feature and its dependencies.

Feature implementation This shows the individual overlays (LDs) necessary to activate the feature. The overlays listed show only prompts requiring responses for the feature. For a complete discussion of prompts and responses, refer to the *input/output guide*.

Feature operation Use these procedures to learn how to operate the feature.

Packaging Information

Information concerning software packaging and dependencies is discussed in the chapters listed below.

Features and software options An alphabetical list of features shows the software package number and feature mnemonic.

Software options and package dependencies A numerical list of software packages shows the feature name and package dependencies.

Other Reference Documents

Meridian 1 Option 11C Compact systems and this guide

Many features and services offered with Meridian 1 Option 11C Compact are similar (if not identical) to those offered with the Meridian 1 family of systems. For this reason, this guide sometimes refers to those systems.

Note: References to Option 11 and Option 11C should also be considered as references to Meridian 1 Option 11C Compact.

Refer to the following binders for details on additional features that are available with the Meridian 1 Option 11C Compact system:

- Automatic Call Distribution
- Software System Management (Books 1 and 2).

Features and software options

Table 1
Feature Names, Numbers and Mnemonics (Part 1 of 6)

Feature name	Number	Mnemonic
ACD CDR Queue Record	83	CDRQ
ACD Package A	45	ACDA
ACD Package B	41	ACDB
ACD Package C1	42	ACDC
ACD Package C2	43	LMAN
ACD Package D, Auxiliary Link Processor	51	LNK
ACD Timed Overflow	111	TOF
Alarm Filtering	243	ALARM_FILTER
ANI Route Selection	13	ANIR
Attendant Alternative Answering	174	AAA
Attendant Break In	127	BKI
Attendant Overflow Position	56	AOP
Autodial Tandem Transfer	258	ATX
Automatic Answerback	47	AAB
Automatic Line Selection	72	LSEL
Automatic Number Identification	12	ANI
Automatic Set Based Installation	200	AINS

Table 1
Feature Names, Numbers and Mnemonics (Part 2 of 6)

Feature name	Number	Mnemonic
Basic Alternate Route Selection	57	BARS
Basic Authorization Code	25	BAUT
Basic Automatic Call Distribution	40	BACD
Basic Call Processing	0	BASIC
Basic Queuing	28	BQUE
Basic Routing	14	BRTE
Call Detail Recording	4	CDR
Call ID	247	CALL ID
Calling Line ID in CDR	118	CCDR
Call Park	33	CPRK
Call Party Name Display	95	CPND
Call-by-Call Service Selection	117	CBC
Called Party Control on Internal Calls	310	CPCI
Calling Party Privacy	301	CPP
CDR Enhancements	259	CDRX
CDR Expansion (7 digits)	151	CDRE
CDR on Teletype Machine (TTY)	5	CTY
Centrex Switchhook Flash	157	THF
Charge Account for CDR	23	CHG
Charge Account/Authorization Code	24	CAB
Command Status Link	77	CSL
Controlled Class of Service	81	CCOS
Coordinated Dialing Plan	59	CDP

Table 1
Feature Names, Numbers and Mnemonics (Part 3 of 6)

Feature name	Number	Mnemonic
Deluxe Hold	71	DHLD
Departmental Listed Directory Number	76	DLDN
Dial Intercom	21	DI
Dialed Number Identification Service	98	DNIS
Digit Display	19	DDSP
Digit Key Signaling	180	DKS
Digital Telephones	88	DSET
Directed Call Pickup	115	DCP
Distinctive Ringing/New Distinctive Ringing	74	DRNG
DN Expansion (7 digits)	150	DNXP
Do Not Disturb, Group	16	DNDG
Do Not Disturb, Individual	9	DNDI
End-to-End Signaling	10	EES
Enhanced ACD	178	EOVF
Enhanced Conference, TDS and MFS card	204	XCT0
Enhanced Controlled Class of Service	173	ECCS
Enhanced Music	119	EMUS
Enhanced Night Service	133	ENS
Extended PBX Features	1	OPTF
Extended Peripheral Equipment (Superloop)	203	XPE
Fast Tone and Digit Switch	87	FTDS
FCC Compliance for DID Answer Supervision	223	FC68
Flexible Call Back Queuing	61	FCBQ
Flexible Feature Codes	139	FFC

Table 1
Feature Names, Numbers and Mnemonics (Part 4 of 6)

Feature name	Number	Mnemonic
Flexible Numbering Plan	160	FNP
Flexible Tones and Cadences	125	FTC
Forced Charge Account	52	FCA
Group Call	48	GRP
History File	55	HIST
Hot Line Services, Enhanced Hot Line	70	HOT
Incoming DID Digit Conversion	113	IDC
Integrated Message System	35	IMS
Inter-Exchange Carrier	149	IEC
Intercept Treatment	11	INTR
Internal Call Detail Recording (CDR)	108	ICDR
ISDN Primary Rate Access	146	PRA
ISDN Signaling	145	ISDN
Last Number Redial	90	LNR
Limited Access to Overlays	164	LAPW
M2250 TCM Console	140	DCON
Make Set Busy	17	MSB
Malicious Call Trace	107	MCT
Meridian Administration Tools 5.0	296	MAT
Meridian Mail Voice Mailbox Administration	246	VMBA
Meridian Modular Telephones	170	ARIE
Message Center	46	MWC
Multi-Party Operations	141	MPO

Table 1
Feature Names, Numbers and Mnemonics (Part 5 of 6)

Feature name	Number	Mnemonic
Multi-Purpose Serial Data Link	222	MSDL
Multi-User Login	242	MULI
Music	44	MUS
Network Alternate Route Selection	58	NARS
Network Authorization Code	63	NAUT
Network Class of Service	32	NCOS
Network Signaling	37	NSIG
Network Speed Call	39	NSC
Network Traffic Measurement	29	NTRF
New Flexible Code Restriction	49	NFCR
New Format Call Detail Recording	234	FCDR
North America National ISDN Class II Equipment	291	NI2
Office Data Administration System	20	ODAS
Open Alarms	315	OPEN ALARM
Optional Outpulsing Delay	79	OOD
PBX Interface for DTI	75	PBXI
Phantom TNs	254	PHTN
Pretranslation	92	PXLT
Priority Override	186	POVR
Recorded Announcement	7	RAN
Recorded Overflow Announcement	36	ROA
Scheduled Access Restrictions	162	SAR
Series Call	191	SECL
Semi-Automatic Camp-On	181	SACP

Table 1
Feature Names, Numbers and Mnemonics (Part 6 of 6)

Feature name	Number	Mnemonic
Set Based Administration	256	ADMINSET
Set Relocation	53	SR
Station Activity Record	251	SCDR
Station Camp-on	121	SCMP
Station Category Indication	80	SCI
Station Specific Authorization Code	229	SSAU
Stored Number Redial	64	SNR
Superloop Administration (LD 97)	205	XCT1
System Speed Call	34	SSC
Time and Date	8	TAD
Trunk Anti-Tromboning	312	TAT
Trunk Barring	132	TBAR
Trunk Verification from a Station	110	TVS
Voice Mailbox Administration	246	VMBA
2500 Telephone Features	18	SS25
500 Telephone Features	73	SS5

Software options and package dependencies

Table 1
Software options and package dependencies (Part 1 of 15)

Number	Package name	Mnemonic
0	Basic Call Processing Includes the following features: — Call Transfer — Conference — Call Forward No Answer — Hunt — Call Pickup — Call Redirection by Time of Day — Trunk to Trunk Connection	BASIC
1	Extended PBX Features Includes the following features: — Autodial — Call Forward All Calls — Override — Ring Again — Secretarial Filtering — Speed Call — Voice Call	OPTF

Table 1
Software options and package dependencies (Part 2 of 15)

Number	Package name	Mnemonic
4	Call Detail Recording This is the base package for CDR. See also — CDR with Charge Account (CHG-24) — CDR Magnetic Tape (CLNK-6) (package 6 is not supported on Release 19 and later) — CDR TTY (CTY-5) — CDR Queue Record (CDR-83) — Internal CDR (ICDR-108) Without CTY (5) or CLNK (6), CDR cannot output statistics or reports.	CDR
5	CDR on TTY Package dependency: — CDR (4)	CTY
7	Recorded Announcement Package dependency: — INTR (11)	RAN
8	Time and Date	TAD
9	Do Not Disturb, Individual	DNDI
10	End-to-End Signaling	EES
11	Intercept Treatment	INTR
12	Automatic Number Identification	ANI
13	ANI Route Selection Package dependency: — ANI (12)	ANIR

Table 1
Software options and package dependencies (Part 3 of 15)

Number	Package name	Mnemonic
14	Basic Routing Package dependency: — NCOS (32)	BRTE
16	Do Not Disturb, Group Package dependency: — DNDI (9)	DNDG
17	Make Set Busy	MSB
18	2500 Telephone Features	SS25
19	Digit Display	DDSP
20	Office Data Administration System	ODAS
21	Dial Intercom	DI
23	Charge Account for CDR Package dependencies: — CDR (4) — CAB (24)	CHG
24	Charge Account/Authorization Code	CAB
25	Basic Authorization Code Package dependency: — CAB (24)	BAUT
28	Basic Queuing	BQUE
29	Network Traffic Measurement	NTRF
32	Network Class of Service	NCOS
33	Call Park	CPRK
34	System Speed Call	SSC

Table 1
Software options and package dependencies (Part 4 of 15)

Number	Package name	Mnemonic
35	Integrated Message System Package dependencies: — ACDA (45) — MWC (46) Meridian Mail IMS applications require the following additional packages: — CSL (77) — CDRQ (83)	IMS
36	Recorded Overflow Announcement Package dependency: — RAN (7)	ROA
37	Network Signaling Package dependency: — NCOS (32)	NSIG
39	Network Speed Call	NSC
40	Basic Automatic Call Distribution This is the minimum package for ACD. See also — ACD Basic; package A (ACDA-45) — ACD Advanced; package B (ACDB-41) — ACD Management Reports; package C1 (ACDC-42) — ACD Load Management; package C2 (LMAN-43) — ACD Package D (ACDD-50) — ACD Auxiliary Link Processor (LNK-51) — ACD/CDRQ record (CDRQ-83) — ACD Timed Overflow (TOF-111) — Dialed Number Identification Service (DNIS-98)	BACD

Table 1
Software options and package dependencies (Part 5 of 15)

Number	Package name	Mnemonic
41	ACD Package B Package dependencies: — ACDA (45)	ACDB
42	ACD Package C1 Package dependencies: — ACDB (41)	ACDC
44	Music Package dependency: — RAN (7)	MUS
45	ACD Package A Package dependency: — BACD (40)	ACDA
46	Message Center	MWC
47	Automatic Answerback	AAB
48	Group Call	GRP
49	New Flexible Code Restriction Package dependency: — NCOS (32)	NFCR
51	ACD Package D, Auxiliary Link Processor Package dependency: — ACDD (50)	LNK
52	Forced Charge Account Package dependencies: — CHG (23)	FCA
53	Set Relocation	SR

Table 1
Software options and package dependencies (Part 6 of 15)

Number	Package name	Mnemonic
55	History File	HIST
56	Attendant Overflow Position AOP cannot be used with CASM (26), CASR (27) or NAS (159).	AOP
57	Basic Alternate Route Selection Package dependencies: — BRTE (14) — NCOS (32)	BARS
58	Network Alternate Route Selection Package dependencies: — BRTE (14)	NARS
59	Coordinated Dialing Plan Package dependencies: — BRTE (14) — FCBQ (61)	CDP
61	Flexible Call Back Queuing Package dependencies: — BQUE (28) — BARS (57), NARS (58) or CDP (59)	FCBQ
63	Network Authorization Code Package dependencies: — BAUT (25) — BARS (57), NARS (58) or CDP (59)	NAUT
64	Stored Number Redial	SNR

Table 1
Software options and package dependencies (Part 7 of 15)

Number	Package name	Mnemonic
70	Hot Line Services	HOT
	Enhanced Hot Line	HOT
	Package dependencies:	
	— NCOS (32)	
	— SSC (34)	
	ISDN Network	
	— ISDN (145)	
	— NTKW (148)	
	— PRA (146) or ISL (147)	
71	Deluxe Hold	DHLD
72	Automatic Line Selection	LSEL
73	500 Telephone Features	SS5
	Package dependency:	
	— SS25 (18)	
74	Distinctive and New Distinctive Ringing	DRNG
75	PBX Interface for DTI/CPI	PBXI
76	Departmental Listed Directory Number	DLDN
77	Command Status Link	CSL
79	Optional Outpulsing Delay	OOD
80	Station Category Indication	SCI
81	Controlled Class of Service	CCOS
83	ACD CDR Queue Record	CDRQ
	Package dependencies:	
	— CDR (4)	
	— BACD (40)	

Table 1
Software options and package dependencies (Part 8 of 15)

Number	Package name	Mnemonic
87	Fast Tone and Digit Switch	FTDS
88	Digital Telephone Sets	DSET
90	Last Number Redial	LNR
92	Pretranslation/Enhanced Pretranslation	PXLT
95	Call Party Name Display	CPND
	Package dependencies:	
	— DDSP (19)	
	— DSET (88)	
	— TSET (89)	
	— ODAS (20) for DES	
	— BGD (99) for Hotel/Motel applications	
98	Dialed Number Identification Service	DNIS
	Package dependencies:	
	— DDSP (19)	
	— ACDA (45)	
	— APL (109) for DP link	
	— IDC (113) for routing by DNIS	
107	Malicious Call Trace	MCT
	— Enhanced Malicious Call Trace (X11 Release 20)	
	Package dependencies:	
	— ISDN (145)	
	— PRA (146) or ISL (147)	
	— NAS (159)	
	— ISDN INTL SUP(161)	

Table 1
Software options and package dependencies (Part 9 of 15)

Number	Package name	Mnemonic
108	Internal Call Detail Recording (ICDR) Package dependency: — CDR (4)	ICDR
110	Trunk Verification from a Station	TVS
111	ACD Timed Overflow Package dependency: — ACDB (41)	TOF
113	Incoming DID Digit Conversion Package dependency: — NFCR (49)	IDC
115	Directed Call Pickup	DCP
117	Call-by-Call Service Selection Package dependencies: — PRA (146) — IEC (149) for Inter-Exchange Carrier connect	CBC
118	Calling Line ID in CDR	CCDR
119	Enhanced Music Package dependency: — MUS (44)	EMUS
121	Station Camp-on	SCMP
125	Flexible Tone and Cadences	FTC
127	Attendant Break In	BKI
132	Trunk Barring	TBAR
133	Enhanced Night Service	ENS

Table 1
Software options and package dependencies (Part 10 of 15)

Number	Package name	Mnemonic
139	Flexible Feature Codes Package dependencies: — SS5 (73) for FFCs on 500 telephones Automatic Wake Up FFC Delimiter (X11 Release 22) — RAN (7) — CCOS (81) — BGD (99) — AWU (102) Electronic Lock Network Wide (X11 Release 21) — NCOS (32) — CCOS (81) — ISDN (145) Busy Number Redial (X11 Release 21) — OPTF (1) Customer Call Forward (X11 Release 21) — OPTF (1) — SS25 (18) Outgoing Call Barring (X11 Release 21) — NFCR (49)	FFC
140	M2250 TCM Console Package dependency: — DSET (88)	DCON
141	Multi-Party Operations Package dependency: — FTC (125) for Recall ringing cadence and control/special dial tones	MPO

Table 1
Software options and package dependencies (Part 11 of 15)

Number	Package name	Mnemonic
145	ISDN Signaling Call Pickup Network Wide Package dependencies: — DCP (115) — NTWK (148) — PRA (146) or BRA (216)	ISDN
146	ISDN Primary Rate Access Package dependencies: — PBXI (75) — ISDN (145) — DDSP (19) for Calling Line ID.	PRA
149	Inter-Exchange Carrier Package dependencies: — PRA (146)	IEC
150	DN Expansion (7 digit)	DNXP
151	CDR Expansion (7 digit)	CDRE
157	Centrex Switchhook Flash	THF
160	Flexible Numbering Plan Package dependencies: — BARS (57), NARS (58) or CDP (59)	FNP
162	Scheduled Access Restrictions Package dependencies: — BAUT (25), FCA (52) and FFC (139) for added capability for manual modification of schedules — NCOS (32) to make NCOS restrictions effective — TENS (86) for multi-tenant service	SAR

Table 1
Software options and package dependencies (Part 12 of 15)

Number	Package name	Mnemonic
164	Limited Access to Overlays	LAPW
170	Meridian Modular Telephone Package dependency: — DSET (88) or TSET (89)	ARIE
173	Enhanced Controlled Class of Service Package dependency: — CCOS (81)	ECCS
174	Attendant Alternative Answering — AAA and AFNA (134) are mutually exclusive	AAA
178	Enhanced ACD	EOVF
180	Digit Key Signaling Package dependencies: — RAN (7) — EES (10) — MSB (17) — IMS (35) — BACD (40) — ACDA (45) — MWC (46) — CSL (77) — APL (109) — FFC (139) MPO (141) for 500/2500 sets	DKS
181	Semi-Automatic Camp-On	SACP
186	Priority Override — FFC (139) MPO (141) for 500/2500 sets	POVR
191	Series Call	SECL

Table 1
Software options and package dependencies (Part 13 of 15)

Number	Package name	Mnemonic
200	Automatic Set Based Installation	AINS
203	Extended Peripheral Equipment (Superloop) Package dependency: — XCT1 (205)	XPE
204	Enhanced Conference, TDS and MFS card Package dependency: — XCT1 (205)	XCT0
205	Superloop Administration (LD 97)	XCT1
222	Multi-Purpose Serial Data Link Package dependencies: — ISDN (145) and PRA (146) for D-channel with PRA — ISDN (145 and ISL (147) for D-channel with ISL — MSDL SDI (227) for Serial Data Interface — MSDL SDI (227) and MSDL STA (228) for Single Terminal Access — IMS (35), CSL (77) and IAP3P (153) for Application Module Link	MSDL
223	FCC Compliance for DID Answer Supervision	FC68
229	Station Specific Authorization Code Package dependency: — BAUT (25)	SSAU
234	New Format Call Detail Reporting Package dependencies: — CDR (4) — CTY (5)	FCDR
242	Multi-User Login	MULI

Table 1
Software options and package dependencies (Part 14 of 15)

Number	Package name	Mnemonic
243	Alarm Filtering Package dependency: — HIST (55)	ALRM FILTER
246	Voice Mailbox Administration Package dependency: — CPND (95)	VMBA
247	Call ID	CALL ID
251	Station Activity Record Package dependencies: — CDR (4) — CTY (5)	SCDR
254	Phantom TN Operation — FFC (139) for Remote Call Forwarding	PHTN
256	Set Based Administration Package dependencies: — FFC (139) — LAPW (164) — DDSP (19) for Digit Display — DSET (88) for Digital Sets — CPND (95) for Call Party Name Display — ARIE (170) for Meridian Modular Sets	ADMINSET
258	Autodial Tandem Transfer Package dependencies: — EES (10) — THF (157)	ATX
259	CDR Enhancements	CDRX

Table 1
Software options and package dependencies (Part 15 of 15)

Number	Package name	Mnemonic
296	Meridian Administration Tools 5.0 — LAPW (164) — MULI (242)	MAT
301	Calling Party Privacy — FFC (139)	CPP
310	Called Party Control on Internal Calls — MCT (107)	CPCI
312	Trunk Anti-Tromboning — ISDN (145) — PRA (146) or ISL (147) — MSDL (222) Recommended: — NTWK (148)	TAT
315	Open Alarms	OPEN ALARM

Group Call

Group Call allows a user of a Meridian 1 proprietary telephone to place a call to up to ten Directory Numbers (DNs) simultaneously by activating a Group Call key. The called DNs must have been previously defined as members of a group.

Each customer within the Meridian 1 Option 11C Compact system can have up to 64 groups assigned. Each group has up to 20 member DNs. Any DN in the system can be assigned as a member of a group, and a DN can be a member of more than one group.

Groups are defined through Service Change in LD 18. When a group is defined, each member of the group is assigned a member number. If network or conference blocking is encountered, members are assigned priorities for connection to the Group Call in the order of their group member numbers (member 0 has the highest priority). It is recommended that group members be assigned from different network loops to minimize the possibility of network blocking.

The Group Call key is used to originate a Group Call to all members of the group to which the Group Call key is assigned. The Group Call key for a given group can appear on more than one telephone. More than one Group Call key can be assigned to a group, but only one Group Call key can be active for a given group at any time. A telephone with a Group Call key need not be equipped with a Directory Number (DN) that is defined as a group member.

Activation of a Group Call key originates a call to all assigned members of the group. When the first member of the group answers, ringback tone is removed and a speech path is set up between the member and the originator of the call. As subsequent members answer, they are added to the call. The lamp associated with the Group Call key at the originator's telephone flashes until all members of the group have answered the call.

If a Directory Number (DN) is actively engaged in a call and a Group Call is originated for that DN, either the Group Call is camped on or Call Waiting is activated for the DN and a special warning tone is provided. The special warning tone consists of three rapid bursts of tone followed by 10 seconds of silence, then an additional three rapid bursts of tone.

An active Group Call is under complete control of the originator of the call. If the originator goes on hook, the call is completely broken down. Members who are taking part in a Group Call can disconnect from the call at any time, but once disconnected, they cannot be reconnected.

Operating parameters

A Group Call can be originated only from a Meridian 1 proprietary telephone with a Group Call key.

Group call does not support the data calls.

The maximum number of members per group is 20.

The maximum number of groups per customer is 64.

Each group member DN must have a Warning Tone Allowed Class of Service.

Off-premise Extension (OPX) lines cannot be members of a group.

Calls to a DN that is active in a Conference call or Group Call are blocked.

Feature interactions

Call Forward All Calls

A Group Call to a telephone with Call Forward active is forwarded one step only. The Call Forward number must be a valid DN.

Call Pickup

This feature can be used to answer a Group Call if it is activated by a valid telephone in the same Call Pickup group, or by using Directory Number (DN) Pickup or Group Pickup.

Directory Number Delayed Ringing

When a group call is made to an SCN/MCN key with the Directory Number Delayed Ringing (DNDR) feature defined, audible notification will be given after the DNDR delay has expired.

Hold

Only the originator of a Group Call can put the Group Call on hold.

Make Set Busy or Individual Do Not Disturb

A Group Call to a telephone in Make Set Busy or Individual Do Not Disturb mode cannot be completed. The telephone will not be rung and is not counted as part of the Group Call (i.e., if all other members in the group have answered, the lamp next to the Group Call key on the originator's telephone lights steadily).

Speed Call Delimiter

Speed Call Delimiter does not interact with Group Call List.

Telephone features

The following features cannot be applied on a Group Call:

- Call Forward No Answer
- Call Forward Busy
- Call Join
- Call Park
- Call Transfer
- Conference
- Hunting
- Privacy Release, and
- Ring Again.

Feature packaging

Group Call (GRP) package 48 has no feature package dependencies.

Feature implementation

LD 18 – Add or change a Group Call list.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	GRP	Group Call data block.
CUST	0	Customer number.
GRNO	0-63	Number of the Group Call list.
STOR	xx yy...y <CR>	Group member number (xx) and associated DN (yyy...y). End input of stored Group Call entries

LD 11 – Add or change Group Call for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, 2616.
TN	c u	Terminal Number.
KEY	xx GRC yy	Add a Group Call key, where: xx = key number, and yy = Group Call list number (0-63).

LD 20 – Print Group Call data.

Prompt	Response	Description
REQ	PRT	Print.
TYPE	GRP	Group Call data.
CUST	0	Customer number.
GRNO	0-63 <CR>	Number of the Group Call group. Print data for all Group Call groups.

Feature operation

To make a Group Call:

- Press **Group Call**. All group members are automatically called. The LCD indicator beside the Group Call key flashes until all members have answered. Then it lights steadily.

To make a Group Call using a Flexible Feature Code, see the Dial Access to Group Call feature module contained in this document.

Handset Volume Reset

This enhancement is supported by the A44 chip in Meridian 1 digital sets and causes a telephone's handset volume to be reset to a specified volume every time that the telephone user hangs up or uses handsfree. If the user wishes to adjust the volume, the user must manually do so, for each call.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

The Handset Volume Reset feature is included in base system software.

Feature implementation

LD 17 – Define the Handset Volume Reset setting.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN ATRN	Configuration Record. Gate opener.
...		
ATRN	YES	Aries (Meridian 1 Modular) transmission parameters. Only prompted if response to TYPE is CFN.
...		
- VOLR	(NO), YES	Volume Reset.

Feature operation

Whenever a transmission download occurs, which happens following a SYSLOAD or when the set line cord is plugged in, the option setting defined in LD 17 is included in the message. The message is interpreted by the set firmware and the appropriate setting is applied. A system initialization will not download this message.

No specific operating procedures are required to use this feature.

Handsfree Transmission Parameter Download

This feature provides new parameters in order to support the handsfree transmission parameter download on Meridian 1 digital telephones. These parameters are downloaded to each telephone upon system reload or set power up, after the handset parameters.

Two new prompts are defined in LD 17 allowing control of handsfree transmit and receive loudness ratings.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

The Handsfree Transmission Parameter Download feature is included in base system software.

Feature implementation

LD 11 – Modify the system hardware and software parameters:

Prompt	Response	Description
...		
CLS	(HFD), HFA	Digital Telephone Handsfree (denied) allowed. Note: Not allowed on M2006, M2008, M2016S, or M2216 sets. M2016 must be defined as a 2616 with HFD Class of Service allowed for M2018 and M2616 sets. HFA is the default for M2317 and M3000 sets.

LD 17 – Create or modify the digital telephone data blocks:

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN ATRN	Configuration Record. Gate opener.
ATRN	YES	Meridian 1 Modular telephone transmission parameters. Only prompted if response to TYPE is CFN.
- HRLR	(0)-8, 32-40	Handsfree receive objective loudness rating.
- HTLR	(0)-11, 32-54	Handsfree transmit objective loudness rating.

LD 22 – Print Handsfree transmission parameter download settings.

Prompt	Response	Description
REQ	PRT	Print.
TYPE	CFN ATRN	Configuration Record. Meridian 1 Modular telephone transmission parameters. Note: When the Handsfree transmission download parameters are printed they are output as their dB value (i.e., an input of 0 in response to the HRLR prompt is printed as +42.00, while a response of 0 to the HTLR prompt is printed as -44.00).

The following cross-references the value that is input in response to the HRLR and HTLR prompts to the actual dB value:

Input value	HRLR (dB)	HTLR (dB)
0	+42.00	-44.00
1	+42.85	-43.50
2	+43.70	-43.50
3	+44.55	-43.00
4	+45.40	-42.50
5	+46.25	-42.00
6	+47.10	-42.00
7	+47.95	-41.50
8	+48.80	-41.00
9	N.A.	-40.50
10	N.A.	-40.50
11	N.A.	-40.00
12	N.A.	N.A.
13	N.A.	N.A.
14	N.A.	N.A.
15	N.A.	N.A.
16	N.A.	N.A.
17	N.A.	N.A.
18	N.A.	N.A.
19	N.A.	N.A.
20	N.A.	N.A.

Input value	HRLR (dB)	HTLR (dB)
21	N.A.	N.A.
22	N.A.	N.A.
23	N.A.	N.A.
24	N.A.	N.A.
25	N.A.	N.A.
26	N.A.	N.A.
27	N.A.	N.A.
28	N.A.	N.A.
29	N.A.	N.A.
30	N.A.	N.A.
31	N.A.	N.A.
32	+42.00	-44.00
33	+41.15	-44.50
34	+40.30	-45.00
35	+39.45	-45.00
36	+38.60	-45.50
37	+37.75	-46.00
38	+36.90	-46.50
39	+36.05	-46.50
40	+35.20	-47.00
41	N.A.	-47.50

Input value	HRLR (dB)	HTLR (dB)
42	N.A.	-48.00
43	N.A.	-48.00
44	N.A.	-48.50
45	N.A.	-49.00
46	N.A.	-49.50
47	N.A.	-49.50
48	N.A.	-50.00
49	N.A.	-50.50
50	N.A.	-51.00
51	N.A.	-51.00
52	N.A.	-51.50

Input value	HRLR (dB)	HTLR (dB)
53	N.A.	-52.00
54	N.A.	-52.50
55	N.A.	N.A.
56	N.A.	N.A.
57	N.A.	N.A.
58	N.A.	N.A.
59	N.A.	N.A.
60	N.A.	N.A.
61	N.A.	N.A.
62	N.A.	N.A.
63	N.A.	N.A.

Note: All values are Objective Loudness Ratings (OLR) measured without inserted loss or gain for trunk card interfaces and computed per IEEE methods. Receive ratings are at maximum volume. Transmit ratings are measured in an anechoic environment with less than 25 dBa room noise.

Feature operation

Whenever a download, which happens following SYSLOAD or when the telephone line cord is plugged in, occurs, the Relative Loudness Rating settings defined in LD 17 are included in the message. The message is interpreted by the telephone firmware and the appropriate settings are applied.

No specific operating procedures are required to use this feature.

History File

The History File provides the capability to allocate an area of protected data to store system messages until a printout is requested by a technician. The size of the History File is defined on a system basis and can be up to 65,534 characters. Since one word of protected data stores two History File characters, the size of the History File is up to 32,767 words of protected data.

Hot Line

Flexible Hot Line

Flexible Hot Line (HOT) allows designated analog (500/2500 type) telephones to place calls to a predetermined destination simply by lifting the handset. The destination may be internal or external to the Meridian 1 Option 11C Compact, and the call does not require attendant intervention.

Flexible Hot Line (HOT) is provided to designated analog (500/2500 type) telephones on a Class of Service basis. A telephone is assigned the Hot Line feature through Service Change and a Manual Line (MNL) Class of Service. Address digits must be stored for the predetermined destination. If no digits are defined, the call will route to the Attendant Console.

When the user lifts the handset, no dial tone is returned. The Meridian 1 Option 11C Compact translates the stored digits and performs one of two operations:

- It rings an internal Directory Number (DN), then returns ringback tone.
- It translates to an external Trunk Access Code (TRC) and DN, then returns external call-progress tones or announcements.

Flashing the switchhook at any time during call setup or during the call will be ignored.

If the caller is a Hot Line, the prime Directory Number of the calling telephone is displayed on the terminating telephone, if equipped with a display.

Operating parameters

Flexible Hot Line only applies to analog (500/2500 type) telephones.

Feature interactions

Autodial

Flexible Hot Line and/or Enhanced Hot Line are mutually exclusive with the Autodial feature.

Calling Party Privacy

A Hot Line call will carry the Privacy Indicator if the CPP code followed by the normal dialing sequence is stored in the Hot Line DN. The CPP will count against the maximum number of digits (currently 31) allowed for the Hot Line DN.

Enhanced Flexible Feature Codes - Busy Number Redial

The Busy Number Redial feature cannot be used on Flexible Hot line sets.

Enhanced Hotline

Flexible Hotline and Enhanced Hotline are mutually exclusive; a telephone cannot have both Manual Line (MNL) and Enhanced Hot Line Allowed (EHTA) Classes of Service.

EuroISDN Continuation

Flexible Hotline does not support EuroISDN Continuation.

Hunting

Calls will hunt before being routed to the attendant.

ISDN QSIG Call Completion

Call Completion cannot be used in conjunction with the Hot Line feature.

Phantom Terminal Numbers (TNs)

Hot Line does not support phantom TNs.

Feature packaging

Flexible Hot Line is contained in Enhanced Hot Line (HOT) package 70.
There are no feature package dependencies.

Feature implementation

LD 10 – Add or change Flexible Hot Line for analog (500/2500 type) telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	MNL	Manual signaling – requires transfer denied (XFD) Class of Service.
FTR	HOT D 1-31 xxx...x yyy...y	Add Flexible Hot Line. 1-31 = maximum digits for Hot Line DN. xxx...x = Flexible Hot Line DN. yyy...y = Phantom DN for a two-way Hot Line.

Feature operation

To make a Flexible Hot Line Call, follow these steps:

- 1 Lift the handset. The Hot Line number is automatically dialed.
- 2 To end the call, hang up.

Enhanced Hot Line

Enhanced Hot Line (EHOT) provides Hot Line services to telephones with programmable keys. This feature is designed for, and is compatible with, analog (500/2500 type) telephones and Meridian 1 proprietary telephones. All capabilities from Flexible Hot Line (HOT) are provided to any key/lamp pair for one- and two-way Hot Lines on a per station basis. When the handset is lifted, or when a preprogrammed key is activated, the system speed calls a preprogrammed DN. Hot Lines access a set of terminal numbers programmed by direct entry using LD 11, or by list entry such as by System Speed Call (SSC) using LD 18. There is no difference in operation for the Hot Line user.

Once a Hot Line call enters the ringing state, it is the same as any normal call.

Enhanced Hot Line (EHOT) allows a distinction between analog (500/2500 type) telephone Hot Lines and manual Hot Lines without dial capabilities. For example, telephones with EHOT enabled and dial facilities support Dial Access features such as Call Transfer or Conference calling.

A Hot Line key can be defined with a Directory Number (DN) of its own, allowing other calls to terminate on that HOT key. The DN must be defined before it can be specified as the DN for a HOT key. For Meridian 1 proprietary telephones, the HOT key must be assigned to a DN during Service Change to create a two-way Hot Line. Analog (500/2500 type) telephones are always two-way Hot Lines, as they always have a DN assigned.

Operating parameters

Incoming calls to Hot Line telephones or keys can be restricted to calls originating from other Hot Line telephones or keys, Voice Call keys, and Group Call keys. This restriction is turned on or off on a per customer basis.

Telephones without a keypad or rotary dial cannot be assigned the Enhanced Hot Line Allowed (EHTA) Class of Service.

A maximum of 31 digits can be stored against a Hot Line telephone or key.

Only one Hot Line list is allowed per customer.

HOT cannot access a list created by the list-entry method for Enhanced Hot Line (EHOT).

A specific Hot Line key on a Meridian 1 proprietary telephone can have access to only one entry in the Hot Line list, but more than one telephone can have access to the same entry.

Analog (500/2500 type) telephones with Manual Line (MNL) Class of Service cannot be defined as Enhanced Hot Line Allowed (EHTA); Enhanced Hot Line Denied (EHTD) is the default. Users of these telephones must continue to use the HOT feature.

If a key is assigned as an EHOT Directory Number (DN), all appearances of that DN must also be EHOT keys.

Feature interactions

Attendant Administration

Use of an Attendant Console to change the database for EHOT is not supported.

Autodial

Flexible Hot Line and/or Enhanced Hot Line are mutually exclusive with the Autodial feature.

Automatic Answerback

The Automatic Answerback feature is fully compatible with a two-way Hot Line key assigned as the Prime DN.

Automatic Call Distribution (ACD)

A Hot Line DN key can be assigned to an ACD telephone.

Automatic Line Selection

Since the Hot Line key acts as a Single Call Ring (SCR) key, incoming ringing line preference can be applied. Outgoing line preference automatically selects a line other than the current Hot Line, so that a Hot Line call is not accidentally activated.

Call Forward Busy No Answer and Hunting

Any Hot Line telephone can be assigned Call Forward Busy/No Answer and Hunting (excluding Short Hunt) Class of Service, but it applies only to the two-way Hot Line capability.

Call Park

Analog (500/2500 type) Hot Line telephones with EHTA and XFA Class of Service are allowed to park calls using the established Call Park procedures. Once a call is parked on an analog (500/2500 type) Hot Line telephone and the telephone is placed on hook, it cannot be unparked. Parked calls will recall to the parking telephone after the Call Park timeout. Two-way Meridian 1 proprietary Hot Line stations that are equipped with a Call Park key/lamp pair are allowed to park calls in the normal fashion. As with analog (500/2500 type) telephones, a call parked from a Hot Line key cannot be picked up using the same key.

Call Pickup

Telephones with two-way Hot Line keys, and analog (500/2500 type) Hot Line telephones, can be assigned to pickup groups. Incoming Hot Line calls may be picked up by group members. To prevent someone from picking up a Hot Line call, do not put the Hot Line user into a Call Pickup group.

Controlled Class of Service (CCOS)

When a Hot Line DN is on a telephone that has CCOS activated, Hot Line calls ignore the imposed Class of Service if the System Speed Call (SSC) package is present and the Hot Line list is given an adequate Network Class of Service (NCOS) for the override.

Dial Intercom

The analog (500/2500 type) Hot Line telephones cannot be members of Dial Intercom Groups (DIGs).

Digit Display

A Display key on a telephone with a Hot Line appearance will display the Hot Line target DN data stored for that key.

Enhanced Flexible Feature Codes - Busy Number Redial

The Busy Number Redial feature cannot be used on Enhanced Hotline sets.

Group Call

Hot Lines can be members of a Group Call. They cannot, however, have a Group Call key.

HOT

EHOT and HOT are mutually exclusive (a telephone cannot have both MNL and EHTA Class of Service).

Internal Call Detail Recording (CDR)

Hot Line stations can be assigned the appropriate Class of Service that allows CDR records to be printed for calls originating on that telephone.

Make Set Busy

Make Set Busy is overridden by the Hot Line feature. If a Meridian 1 proprietary telephone is in Make Set Busy mode, incoming Hot Line calls still terminate (ring) on the telephone.

Override

A Hot Line call can be entered using the Override feature.

Permanent Hold

Analog (500/2500 type) telephones with EHTA cannot have Permanent Hold.

Prime DN

If the Hot Line key is assigned to key 0 on a Meridian 1 proprietary telephone, it acts as the prime DN. When the user goes off-hook without selecting a DN key, the Hot Line is activated and the call is placed without further user action.

Private Line

A Hot Line key cannot be a Private Line, as this would defeat the benefits of Private Line service.

Room Status (RMS)

The Room Status feature is incompatible with any telephone for which going off-hook activates Hot Line.

System Speed Call (SSC)

When the SSC package is equipped, Hot Line lists have the characteristics and limitations of SSC lists. If the package is not equipped, Hot Line lists function like standard Speed Call lists.

Voice Call

The terminating DN of a Voice Call arrangement may be the incoming DN of a two-way Hot Line.

When engineering call-modification paths (such as Hunting and Call Forward No Answer), the Hot Line Restriction option will cancel the normal call-modification operation for internal non-Hot Line calls.

Feature packaging

Enhanced Hot Line (HOT) package 70 requires:

- Network Class of Service (NCOS) package 32, and
- System Speed Call (SSC) package 34.

Feature implementation

LD 17 – Assign the number of Speed Call lists, including Hot Line lists.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN PARM	Configuration record. Gate opener.
MSCL	0-8191	Maximum number of Speed Call lists.

LD 15 – Add or change Enhanced Hot Line for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0-99	Customer number.
OPT	(HTU), HTR	Hot Line (unrestricted) or restricted. This program determines whether the call is going to a Hot Line DN or to any available DN. HTR restricts Hot Line calls to Hot Line DNs, but HTU does not.

LD 18 – Compute Hot Line Speed Call list memory size and disk records. Use this prompt sequence to determine if there are enough memory and disk records for new Speed Call lists. Compare the output with the MEM AVAIL and DISK AVAIL values output before the REQ prompt.

Prompt	Response	Description
REQ	COMP	Compute disk and memory.
TYPE	SCL	Speed Call lists.
NOLS	1-8191	Number of lists to be added.
DNSZ	4-16-31	Maximum length of DN allowed for Speed Call list.
SIZE	1-1000	Maximum number of DN entries in Speed Call list.

LD 18 – Add or change a Hot Line Speed Call list.

Prompt	Response	Description
REQ	NEW, CHG, OUT	Add, change, or remove a Speed Call list.
TYPE	HTL	Hot Line List.
CUST	0-99	Customer number.
LNSO	0-8190	Hot Line List number (only one Hot Line List per customer).
NCOS	0-99	NCOS to be assigned to calls accessing the list.
DNSZ	xx	Maximum number of digits in a list entry (4, 8, 12, 16, 20, 24, 28, or 31).
SIZE	1-1000	Maximum number of entries in the Speed Call list.

STOR	xxx yy...y	xxx = list entry number (0-9, 0-99, or 0-999). yy...y = digits to be stored against the entry (must be equal to or less than DNSZ).
- WRT	(YES), NO	Data (is) is not correct and list (can) cannot be updated. The WRT prompt follows SIZE and STOR prompts asking for confirmation of the data just entered. If data is correct, enter YES or <CR>. A response of NO to WRT after SIZE returns the REQ prompt. A response of NO to WRT after STOR causes the data just entered to be ignored and a restart message (SCH3213) to be generated. A response of **** aborts the program. The last STOR value is lost but all other values for which WRT was YES are saved. The following information is output with the WRT prompt: ADDs: MEM: xxxxx DISK: yy.y (xxxxx is the amount of protected memory; yy.y is the number of disk records required for the new speed call list. Check the MEM AVAIL and DISK REC AVAIL values output before the REQ prompt).

LD 10 – Add Enhanced Hot Line for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	I s c u	Terminal Number.
CLS	DTN, DIP EHTA (LDN), LNA (XFD), XFA (CWD), CWA (XRD), XRA	Digitone or dial pulse service (manual service is not allowed). Enhanced Hot Line allowed. Last Number Redial (denied) allowed – optional. Call Transfer (denied) allowed – optional. Call Waiting (denied) allowed – optional. Ring Again (denied) allowed – optional.
FTR	HOT D nn x...x HOT L 0-999	Direct Hot Line DN. nn = number of digits (1-31) for target DN x...x. Hot Line List entry number defined in LD 18.

LD 11 – Allow or deny Enhanced Hot Line for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	nn HOT D cc x...x	One-way Hot Line key.
	nn HOT L aaa	One-way Hot Line List key.
	nn HOT D cc x...x xxxx	Two-way Hot Line key.
	nn HOT L aaa xxx...x	Two-way Hot Line List key.
	nn CH D cc x...x nn CH L aaa	Combined No Hold Conference and Direct Hot Line feature. Combined No Hold Conference and Hot Line List feature. nn = key number. cc = number of digits for target DN (1-31). x...x = target DN (≤ 31 digits). aaa = Hot Line List entry defined in LD 18. xxx...x = DN for Hot Line key.

Feature operation

To make an EHOT call on an analog (500/2500 type) telephone:

- Lift the handset. The Hot Line number is automatically dialed.

To transfer or conference an EHOT call on an analog (500/2500 type) telephone:

- Flash the switchhook (or press **Link**) and dial the third-party extension.

To make an EHOT call on a Meridian 1 proprietary telephone:

- Press **Hotline**.

To answer an incoming Hot Line call on a Meridian 1 proprietary telephone:

- Press the flashing **Hotline** key.

To end an Enhanced Hot Line call:

- Hang up or press **Rls**.

Hunting

Hunting allows calls encountering a busy Directory Number (DN) to route automatically to another DN. Hunting continues along a predefined path, known as the hunt chain, until reaching an idle DN, the end of the hunt chain, or the maximum number of hunt steps. Hunting is specified on a DN basis. DNs in the hunt chain can be consecutive or nonconsecutive numbers.

The four types of hunt chains provided by the Meridian 1 Option 11C Compact are:

- Circular hunting
- Linear hunting
- Secretarial hunting, and
- Short hunting.

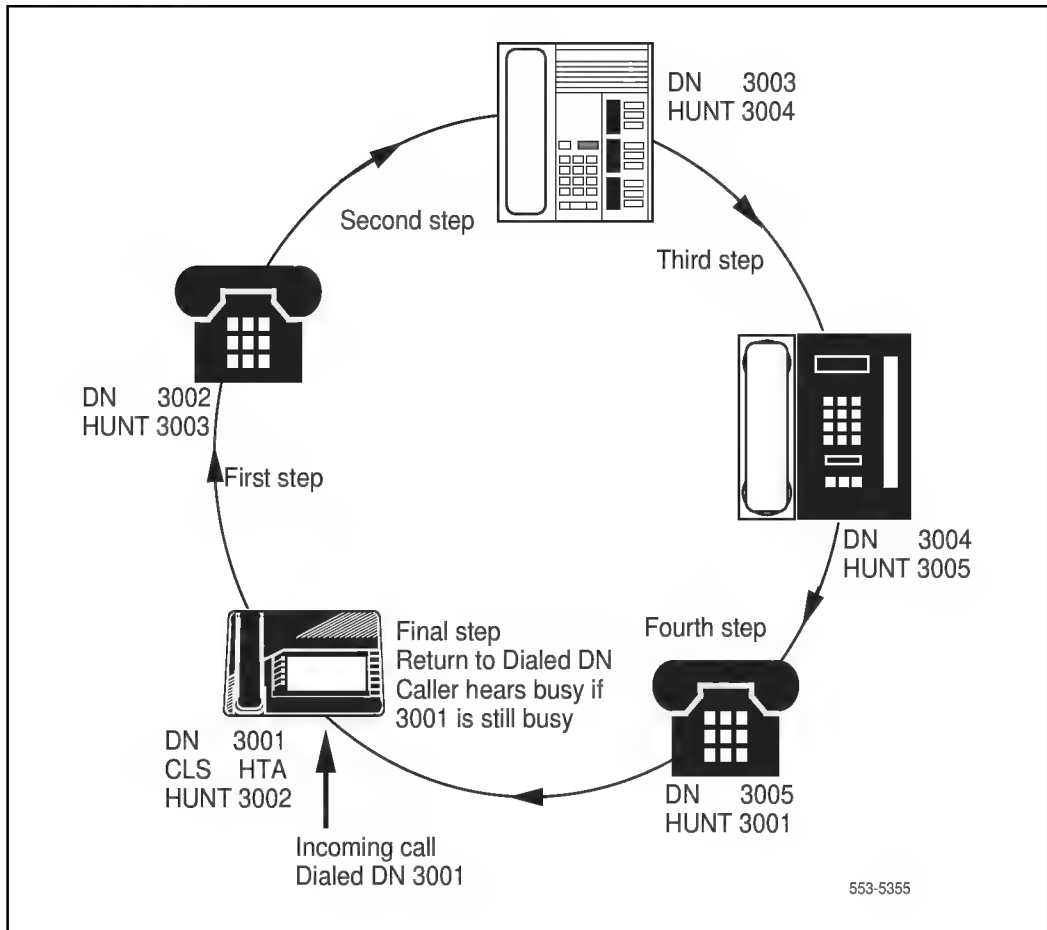
The following pages describe and illustrate each of these ways to hunt.

In addition, Data Port Hunting is described on [page 60](#), and Trunk Hunting is described on [page 65](#).

Circular Hunting

Circular Hunting begins at the dialed DN and travels through every DN in the hunt group. The chain can begin at any point in the circle. The call goes around the circle until answered, or until returned to the initial DN. If all the DNs in the chain are busy, the caller hears busy tone. [Figure 1](#) shows an example of circular hunting.

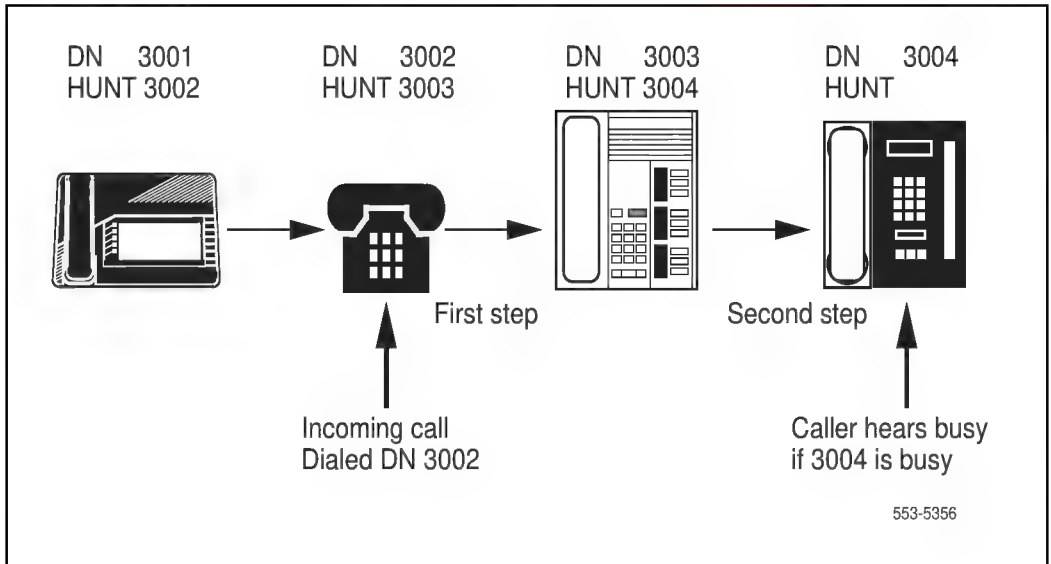
Figure 1
Circular Hunting



Linear Hunting

Linear Hunting begins at the dialed DN. The call travels in one direction only when hunting along a linear chain. If a call comes into the second DN of a four-DN chain, it hunts to the third and fourth DNs only. If all the DNs are busy, the caller hears busy tone. [Figure 2](#) shows an example of Linear Hunting.

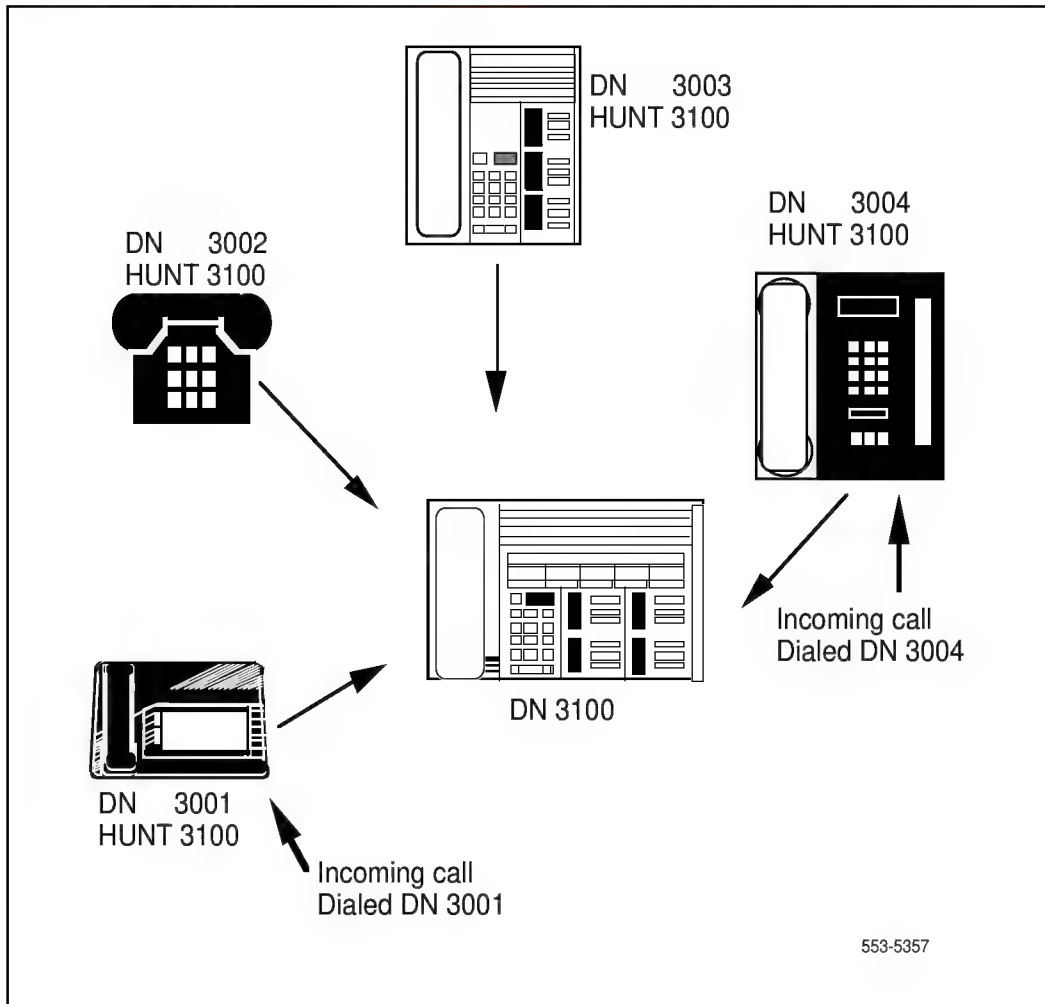
Figure 2
Linear Hunting



Secretarial Hunting

Secretarial Hunting sends calls to a single Hunt DN, typically a secretary or Voice Mail. When a call comes in to a busy DN, it travels to the central location. [Figure 3](#) shows an example of Secretarial Hunting.

Figure 3
Secretarial Hunting



Short Hunting

Short Hunting takes place along the key strip of any Meridian 1 proprietary telephone. The hunt chain begins on a DN on the key strip. The call hunts up the keys until it reaches a feature key, an unassigned key, or the Last Hunt Key (LHK, defined in LD 11). If the call cannot reach an available DN, the caller hears busy tone. When a call hunts to a Multiple Appearance DN, all appearances with ringing are allowed.

For a TN with Hunting Control enabled, Short Hunt takes precedence over normal Hunting (Circular, Linear, or Secretarial). If the Hunting search selects a TN for a digital telephone, Short Hunt redirects the call before attempting to use the Hunt TN. Thus the hunt chain might become Hunt DN A, Hunt DN B, Short Hunt Sequence C, Short Hunt Sequence D, or Hunt DN E.

[Figure 4](#) shows an example of Short Hunting.

Operating parameters

The maximum number of hunt steps is 30 hunt.

Feature interactions

Advice of Charge for EuroISDN

Calls charged with Advice of Charge that are either extended, transferred or redirected to another set via Hunting are charged against the last station that answers the call and the controlling station releases.

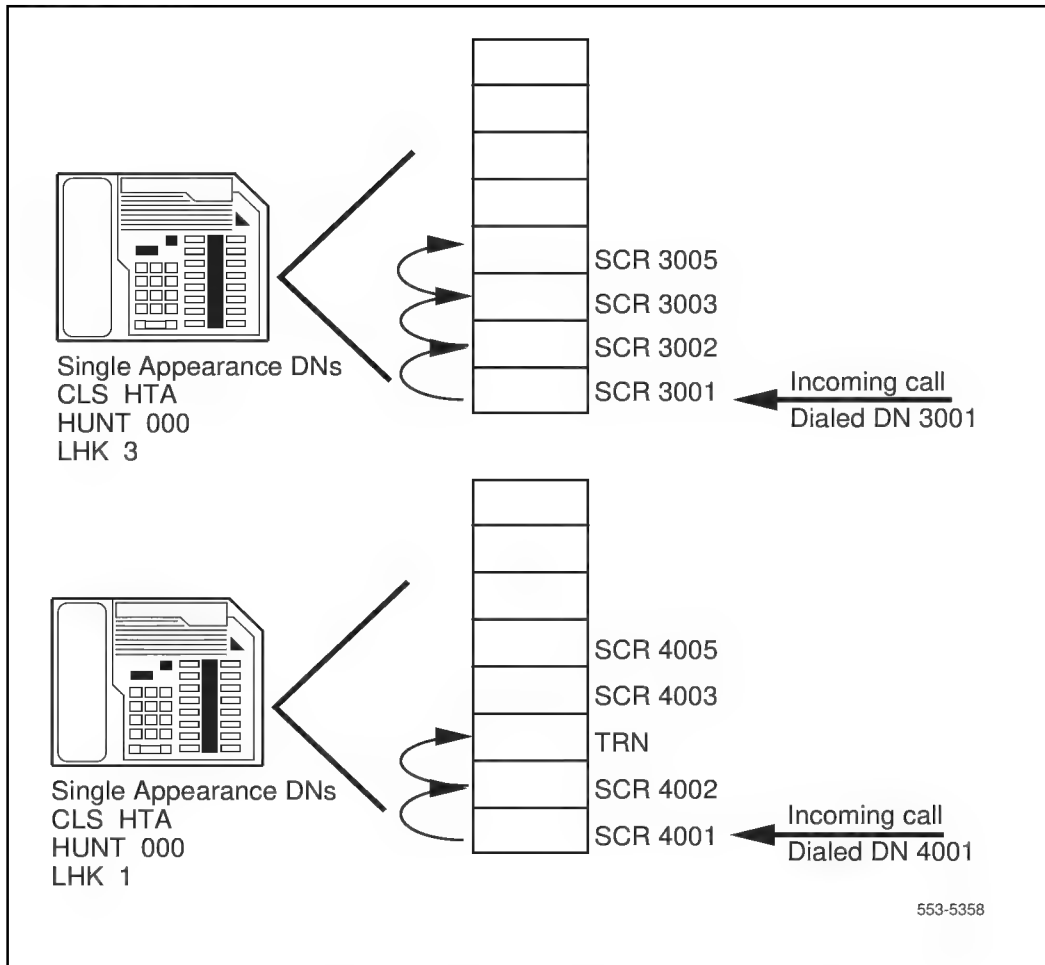
Attendant Blocking of Directory Number

If Attendant Blocking of DN is attempted on a busy DN having the Hunting feature active, busy tone will be returned (overriding the Hunting feature).

Attendant Break-In

If the destination DN is in a Hunting chain with some idle DNs, the Break-In request goes to the first idle DN in the chain. To prevent this occurrence, the attendant can press the Break-In key prior to dialing the destination DN.

Figure 4
Short Hunting



Call Detail Recording on Redirected Incoming Calls

The Call Detail Recording on Redirected Incoming Calls feature does not affect how these features operate; however, it does provide information about the answering party in the CDR ID field if incoming calls have been redirected by any one of these features.

Call Forward All Calls

Call Forward All Calls takes precedence over Hunting.

Call Forward Busy

Hunting takes precedence over Call Forward Busy for Direct Inward Dialing (DID) calls. When the station receiving a DID call has both Call Forward Busy and Hunting Allowed (HTA) Class of Service, the call is routed along the hunt chain. If all stations in the hunt chain are busy, the call is forwarded to the attendant.

Call Forward/Hunt Override (CFHO)

A hunt can be overridden by the CFHO feature, through the use of a Flexible Feature Code.

Call Page Network Wide

PAGENET does not block a station set from being programmed to Hunting to an external Paging trunk. At call termination time, calls that are forwarded to an external PAGENET uncontrolled trunk are not blocked. However, calls forwarded to an external PAGENET controlled trunk are given access denied intercept treatment at the Paging node.

Call Redirection by Time of Day (CRTOD)

When CRTOD is enabled and an incoming call reaches a busy Directory Number, the time is checked against the Alternate Redirection Time Option range defined on the telephone.

Call Waiting or Station-to-Station Call Waiting

Hunting takes precedence over Call Waiting. If all steps in the hunt chain are busy, Call Waiting is activated.

Calling Party Privacy

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the outgoing trunk route on the tandem node also has CCP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node will carry the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e, at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Dial Access to Group Calls

Hunting cannot be applied to a Group Call.

ISDN QSIG Name Display

When an incoming QSIG call with name display presentation allowed is hunted locally, the calling party's name information is displayed on the destination set. With presentation restriction, the calling party's name information is not displayed.

Multiple Appearance Directory Numbers (MADNs)

Hunting can be controlled by the MADN Redirection Prime (MARP) Terminal Number (TN). If the MARP system option is disabled, Hunting proceeds as if MARP did not exist.

If all the telephones in the Multiple Appearance Directory Number (MADN) group are Meridian 1 proprietary telephones, ringing telephones are placed at the top of the DN list, and non-ringing telephones are placed at the bottom.

If a Multiple Appearance Directory Number appears in a group with several telephone types, the telephone type affects the position of the TN in the list. The analog (500/2500 type) telephones are listed at the top, and Meridian 1 proprietary telephones are listed in numerical TN order at the bottom of the list. A service change to an analog (500/2500 type) telephone moves its TN to the top of the list. A service change to a Meridian 1 proprietary telephone moves it to the bottom of the list. Call redirection follows the TN order from top to bottom.

The MARP TN is always checked to determine if and how the call is to be redirected by Hunting, regardless of where the MARP TN resides in the TN list of the DN block. No searching of the TN list of the DN block is needed. Hunting will follow the hunt chain based on the originally dialed DN. The actual functioning and requirements for Hunting are not changed by the MARP feature. The basic change introduced by the MARP feature is to always have a designated TN, the MARP TN, as the TN supplying the call redirection parameters.

If the MARP TN does not have Hunting control enabled, no Hunting is attempted. Other features for redirecting calls to busy DNs may be attempted based on the MARP TN.

A Short Hunting sequence begins when the MARP TN of a busy DN can perform Short Hunting. When a Short Hunt begins, it completes on that telephone before going to the Hunt DN. The precedence of Short Hunting over normal Hunting is maintained. Once a Short Hunting sequence is started on a digital TN, all the DNs in the Short Hunt sequence on that TN are attempted before redirecting the call to the TN's Hunt DN. Thus, a Hunt Chain connects Short Hunting sequences through Hunt DNs only.

Recovery on Misoperation of Attendant Console

Hunting takes precedence over the Misoperation feature.

Ring Again on No Answer (RANA)

If RANA has been applied to a station going through a Hunt sequence, Ring Again is applied to that station and not the ringing station.

Station Camp-On

Hunting takes precedence over Camp-On.

Feature packaging

Hunting is included in base system software.

Feature implementation

LD 10 – Add or change Hunting for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
HUNT	xxx...x	Hunt DN. xxx...x removes the DN from the hunt chain.
CLS	(HTD), HTA	(Deny) allow hunting.

LD 11 – Add or change Hunting for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
HUNT	xxx...x 000	Hunt DN. xxxx...x removes the DN from the hunting chain. Allow Short Hunting only.
LHK	xx	Last Hunt Key (LHK) number (default is 0). LHK 0 deactivates Short Hunt.
CLS	(HTD), HTA	(Deny) allow hunting.

Data Port Hunting

Data Port Hunting improves the Hunting operation for data ports and modem pooling, and improves Ring Again operation for modem pooling.

Up to 255 data ports can be configured as trunks in data port trunk routes. In addition, the route can be programmed to step to another data port route if all members in the route are busy.

A data port serves as the interface between the Meridian 1 Option 11C Compact and a computer or other data communication device. A data port can be one of the following devices:

- Standalone Add-on Data Module (ADM) in auto-answer mode (no modem)
- Any modem that can recognize ringing and simulate off hook or on hook status
- Standalone ADM in auto-answer mode, connected to a modem
- Data Access Card (DAC), or
- Meridian 1 Communications Adapter (MCA).

The following types of trunk routes are supported for data port hunting:

- ADM Trunk Routes: Add-on Data Module (ADM) data ports that interface through Data Line Cards
- Modem Trunk Routes: Modem data ports that interface through 500/2500 Line Cards
- RS-232 (R232): RS-232 data ports that interface through Data Access Cards (DACs)
- RS-422 (R422): RS-422 data ports that interface through Data Access Cards (DACs), and
- MCA: Meridian 1 Communications Adapter (MCA) data ports that interface through Integrated Services Data Line Cards (ISDLs) or Data Line Cards (DLCs).

Data ports can act only as terminating parties. The user dials the access code of the trunk route to access the data ports.

Operating parameters

All data port trunks within a route must be of a single type. ADM and MDM data ports cannot be mixed in the same data port trunk route.

Only an attendant can extend incoming calls from stations or trunks (CO, FX, WATS, TIE, Direct Inward Dialing [DID], Common Controlled Switching Arrangement [CCSA]) to data port trunk routes. Calls cannot be extended, transferred, or conferenced from a station to a data port group.

In Night Service mode, any station can transfer incoming calls to data port routes.

Trunk access restrictions (TARG, TGAR) should be applied to data port trunk routes to prevent stations with co-located ADMs from directly accessing data ports with modems, and vice versa.

Class of Service restrictions do not apply to data port trunks.

Ring Again, Basic/Network Alternate Route Selection (BARS/NARS), and trunk access restrictions (TARG, TGAR) are the only features that may be applied on calls to data port routes.

Feature interactions

Conference

The Conference feature is not supported with data ports.

Ring Again

When a user activates Ring Again against the data port extension Access Code (ACOI), the Meridian 1 Option 11C Compact stores the request until a member in the data port route becomes idle. When an idle member is found, the calling party is notified and the member is reserved for eight seconds. If the calling party does not respond to the Ring Again notification within eight seconds, the reservation is dropped.

Feature packaging

Data Port Hunting is included in base system software.

Feature implementation

LD 16 – Add or change a data port trunk route.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
ROUT	0-511	Trunk route number.
TKTP	ADM, MDM, R232, R422, MMPM	Trunk route type.
STEP	0-511	Alternate trunk route number.
TARG	0-31	Trunk Access Restriction Groups (TARGs).
- TOV	0-3	Data port time out. 0 = No timeout. 1 = 15 minutes. 2 = 30 minutes. 3 = 60 minutes
- PSEL	(DMDM), TLNK	Protocol selection. T-Link or DM-DM protocol. Prompt offered to MCU (TKTP = MMPM).
- OPE	(NO), YES	(Do not) change data port operating parameters. Prompt offered to MCU (TKTP = MMPM).
-- PSDS	(NO), YES	(Do not) allow PSDS protocol. Prompt offered to MCU (TKTP = MMPM).
-- TRAN	(ASYN), SYN	Port transmission type; if PSDS = YES, then TRAN must be SYN. Prompt offered to MCU (TKTP = MMPM).
-- PAR	(SPAC), EVEN, ODD, MARK	Parity type, where: SPAC = space parity EVEN = even parity ODD = odd parity, and MARK = mark parity.

-- DTR	(OFF), ON	Forced DTR (if ON) or dynamic DTR (if OFF). Prompt offered to R232, and to MCU (TKTP = MMPM).
-- DUP	(FULL), HALF	Full duplex/half duplex. Prompt offered to MCU (TKTP = MMPM).
-- DCD	(ON), OFF	(ON) = dynamic CD. OFF = forced CD. Prompt offered to R232, and to MCU (TKTP = MMPM).
-- MOD	(NO), YES	Modem, (Network): when TRAN = SYN. Prompt offered to MCU (TKTP = MMPM).
-- INT	(OFF), ON	SL-1/100 Interworking. Prompt offered to MCU (TKTP = MMPM).
-- CLK	(OFF), ON	(OFF) = External Clock, ON = Internal, when TRAN = SYN. Prompt offered to MCU (TKTP = MMPM).
-- V25	(NO), YES	V.25 bis offered only when TRAN = SYN. Prompt offered to MCU (TKTP = MMPM).
-- HDLC	(NO), YES	High Level Data Link Control offered only when V25 = YES. Prompt offered to MCU (TKTP = MMPM).
-- DEM	(DCE), DTE	Data Equipment Mode. DCE or DTE mode. Prompt offered to R232.
-- PBDO	(OFF), ON	Port Busy upon DTR off. Presented when DCE, Dynamic DTR. Prompt offered to R232. ON = enabled. (OFF) = disabled.

LD 14 – Add or change a data port trunk.

Prompt	Response	Description
REQ	NEW, CHG	New or change.
TYPE	aaa	Trunk type.
TN	c u	Terminal Number.

Feature operation

To access a Data Unit (DU), the user dials the Access Code (ACOD) of the route data block. If a DU is available, a connection is made. If a DU is unavailable, the user receives this message on the terminal screen: “ALL PORTS ARE BUSY. ACTIVATE RING AGAIN?” Select Ring Again and wait until a DU port becomes available.

When a user dials a data port, the request is placed in the Ring Again queue until a port becomes idle. When an idle port is located, the calling party is notified and the port is reserved for eight seconds.

Data Port Verification (DVS)

Any applicable telephone with Data Port Verification Allowed (ADV) Class of Service can place a call to a specific Add-on Data Module (ADM) in a route by going off-hook, receiving dial tone, and dialing:

SPRE + 70 + ACOD + mmm

where

SPRE = special prefix

70 = special access code for the Data Port Verification (DVS) feature

ACOD = Access Code for the ADM trunk group, and

mmm = three-digit number that is to be seized within the trunk group.

The selected ADM trunk is seized if it is in not busy, maintenance busy, or disabled state. Once the call is established, it is treated as a normal ADM trunk call. If the selected trunk is in busy, maintenance busy, or disabled state, the call originator receives an overflow tone. No tone is returned when keyboard dialing is used.

Trunk Hunting

Trunk Hunting provides either Linear Hunting or Round Robin Trunk Hunting for outgoing trunks in a route.

When Linear Hunting is implemented, the system searches for an available trunk in descending order. A station originating an outgoing call is connected to the last available trunk (highest available trunk route member number) of the trunk route accessed. The last trunk route member is always the first choice for outgoing calls and the first trunk route member is always the last choice.

Round Robin Trunk Hunting

Outgoing calls are evenly distributed among the members of a trunk route. When a station originates an outgoing call, the system searches for an available trunk route member in descending order, starting with the next lower member number from the last trunk seized for an outgoing call on the trunk route. If a trunk with a lower member number is not available, the system searches for a trunk starting with the highest member number of the route.

Note for multiple group machines using Round Robin Trunk Hunting:

To minimize system resource usage, the Meridian 1 Option 11C Compact will attempt to hunt to an available trunk within the same group as the originating TN. For example, if a call is placed from a telephone whose TN is in group 1, the system will first attempt to locate an available trunk within group 1. If there are no available trunks in group 1, the system selects an available trunk from another group.

Each time hunting occurs, the round robin index value, which points to the next route member to be examined, is updated. Because the proximity of a trunk loop to the originating TN loop takes precedence over the order of the trunk route members, the system may be forced to hunt through many route members to locate an available trunk within a given group. This can cause the round robin index to change dramatically, yielding inconsistent trunk usage patterns.

If uniform trunk usage is a prime concern, configure route members with alternating groups. For example, if a given route contains trunk members from different groups, alternate the groups so that route member 1 is a trunk member from group 1, route member 2 is a trunk member from group 2, and so on. This configuration will produce more uniform trunk usage than would occur if trunks of the same group were bunched together within a route.

Operating parameters

The Public Exchange/Central Office (CO) governs incoming trunk hunting. The Meridian 1 Option 11C Compact has no control over the order of incoming trunks.

Feature interactions

There are no interactions with other features.

Feature packaging

Trunk Hunting is included in base system software.

Feature implementation

LD 16 – Implement Linear or Round Robin Trunk Hunting for a trunk route.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	RDB	Route data block.
CUST	0	Customer number.
ROUT	0-511	Trunk route number.
SRCH	(LIN), RRB	Linear or Round Robin Hunting.

Feature operation

No specific operating procedures are required to use this feature.

In-Band Automatic Number Identification

The In-Band ANI (IANI) feature provides the ability to display a ten-digit calling party number during setup (signaling) over a non-Integrated Services Digital Network (ISDN) T1 trunk. The Automatic Number Identification (ANI) digits are displayed when they auto-terminate to an Automatic Call Distribution (ACD) Directory Number (DN) agent telephone with digit display. The IANI feature supports ten digits for ANI, or three and four digits for Dialed Number Identification (DNIS). IANI sends these digits to three places: the Call Detail Recording (CDR) records, the host, and the agent telephone.

When a Direct Inward Dialing (DID) or TIE trunk originates a call, the software determines whether the call is on an IANI trunk group. If it is, the ten ANI digits are collected, and the call auto-terminates at the ACD DN specified for that trunk, provided that the ACD telephone has digit display and Standard Delayed Display (DDS) Classes of Service. The call, sent by Dual Tone Multifrequency (DTMF) signaling prior to call termination, is not received until all the digits are received by the software.

When the call is presented to the ACD DN, a PCI message is simultaneously sent across the Application Module Link (AML) carrying the ANI digits. The message contains the ANI number, the ACD DN, and the ACD Agent ID. For a complete description of ISDN/AP, see *Meridian Link ISDN/AP general guide* (553-2901-110).

If an auto-terminating ACD DN is not configured for the trunk, the call intercepts to the attendant, and the ANI number is displayed on the Attendant Console. If the call is extended to an ACD DN, the IANI digits are displayed after it is extended.

CDR records

Because IANI and Integrated Services Digital Network (ISDN) cannot be configured on the same trunk group, the IANI report is able to appear in place of the Calling Line Identification (CLID) records. The ANI number is shown on the second line of the CDR report in the following format:

```
N 002 00 T00004 01 03/24 10:15 00:00:38 4155551212*****
```

where

N	= record type
002	= record sequence number
00	= customer number
T00004	= trunk route and member number
01	= ACD Agent Position ID
03/24	= date (month/day)
10:15	= time (hour:minute)
00:00:38	= duration (hours:minutes:seconds)
4155551212*****	= ANI number (ten digits followed by *****)

For a complete description of CDR output, see *Call Detail Recording description and formats* (553-2631-100).

Operating parameters

IANI operates on T1, Direct Inward Dialing (DID), and TIE trunks only.

IANI cannot be configured on the same trunk with Electronic Switched Network (ESN), Integrated Services Digital Network (ISDN), or Dialed Number Identification Service (DNIS).

The auto-terminating Automatic Call Distribution (ACD) Directory Number (DN) is configured in LD 14. Any ACD agent specified to answer IANI calls also receives standard ACD calls. When a standard ACD call is received on a non-ISDN or non-ANI trunk, no ANI numbers are displayed.

If an IANI call terminates on a non-ACD DN, no ANI digits appear on the telephone display. Likewise, no PCI messages are sent across the Application Module Link (AML).

Auxiliary Processor Link (APL) is not supported.

Should the system initialize while an agent is active on an IANI call, there will be no impact on the call. However, if any call modification (such as, Call Transfer or Conference) takes place, the ANI number is lost.

A Dual Tone Multifrequency (DTMF) receiver is required to interpret the DTMF tones with an IANI number.

Feature interactions

The IANI feature interacts heavily with ACD. For a complete description of the ACD features involved, see *Automatic Call Distribution feature description* (553-2671-110).

ACD Answer Call Supervisor Emergency

If the agent presses the Supervisor (ASP) key or the Emergency (EMR) key, the digit display is cleared when the supervisor answers the call. The display remains clear while the supervisor is active on the call. If the supervisor releases first, the ANI number reappears on the agent's telephone display.

ACD Interflow

If an IANI call interflows to another predesignated local ACD DN, the ANI number is displayed on the overflow agent's digit display. The source ACD DN is displayed following the ANI number.

ACD Night Call Forward

If an ANI call is forwarded to an ACD DN, the ANI number is displayed on the ACD Agent telephone.

ACD Overflow by Count

If an IANI call overflows to another ACD DN, the ANI number is displayed on the overflow agent's digit display. The source ACD DN is displayed following the ANI number.

Activity code

If the Activity Code (ACNT) key is activated during an IANI call, the display is cleared. Once the activity code has been entered and the ACNT key pressed again, the ANI number reappears on the agent's display.

Attendant Recall

If an ACD Agent is active on an IANI call and activates the Attendant Recall (ARC) key to call the attendant, the agent's display shows the attendant number when the attendant answers the call. The ANI number reappears when the attendant releases.

Call Consultation

If the agent is active on an IANI call and presses the TRN key for call consultation, the display is cleared. When the agent restores the IANI call, the ANI number reappears.

Call Park

If an agent parks an IANI call and it times out and recalls the agent, the ANI number is not displayed.

Call Transfer

If an agent transfers an IANI call to another ACD DN, the ANI number is displayed on the terminating set's display.

Conference

If an agent activates the Conference feature while active on an IANI call, the display is cleared. The display remains clear while the Conference call is active. If the conferenced party releases first, the ANI number appears on the agent's display.

Display (DSP) key

If the agent is active on an IANI call and presses the DSP key to display another key feature, the ANI number does not reappear when the DSP function is complete.

Hold

If an ACD Agent places an IANI call on hold, the ANI number reappears when the call is restored.

Network ACD (NACD)

If an IANI call diverts to a target node as a result of Network ACD (NACD), the ANI number appears at the target node.

R2MFC CNI/CDR Enhancements

Inband Automatic Number Identification (IANI) trunks do not support Calling Number Identification (CNI). If a CNI is available in addition to the IANI on an IANI trunk, the IANI would be used for the CLID.

Time and date

If the agent presses the Time and Date (TAD) key while on an IANI call, the time and date remain displayed throughout the call. To display the ANI number again, place the call on hold and retrieve it. The ANI number reappears.

Time overflow

If an ACD Agent receives an IANI call due to time overflow, the ANI number is displayed. The source ACD DN follows the ANI number on the display.

Virtual Agents

Virtual Agents are not supported for IANI calls.

Feature packaging

In-Band ANI (IANI) is not a separately packaged feature. Implementing IANI requires the following packages:

- Basic ACD (BACD) package 40
- ISDN Signaling (ISDN) package 145
- 1.5 Mbps Primary Rate Access (PRA) package 146
- Inter Exchange Carrier (IEC) package 149, and
- Dialed Number Identification Service (DNIS) package 98.

If Application Module Link (AML) is required, Command Status Link (CSL) package 77, and Integrated Messaging System (IMS) package 35, must be included.

For CDR records, Call Detail Recording (CDR) package 4 is required.

Feature implementation

LD 16 – Identify the route as an In-Band Automatic Number Identification route.

Prompt	Response	Description
REQ	NEW, CHG	Add or change an IANI route.
TYPE	DID, TIE	Direct Inward Dialing (DID) or TIE route.
ISDN	NO, YES	Enable or disable ISDN (cannot be configured on same route as IANI).
AUTO	(NO), YES	(Do not) specify as an auto-terminating route.
IANI	(NO), YES	(Disable) enable the IANI route.

LD 23 – Send the IANI messages across the Auxiliary Processor Link (APL).

Prompt	Response	Description
REQ	NEW, CHG	Add or modify an IANI route.
TYPE	ACD	IANI calls terminate at an auto-terminating ACD DN.
ISAP	YES, (NO)	Enable IANI messaging across the AP link. The ISAP prompt replaces the DNIS prompt.

Feature operation

No specific operating procedures are required to use this feature.

Incoming DID Digit Conversion

The Incoming DID Digit Conversion (IDC) feature allows digits received from the Central Office (CO) to be converted to unrelated extension numbers within the system. This conversion is accomplished using a translation table dedicated to a Direct Inward Dialing (DID) route. The digit conversion table is set up to map the received (external) DID digits into the local (internal) Directory Number (DN).

IDC can be selectively applied to DID routes. A unique conversion table is available for each route.

Full Digit Conversion

All the digits received are converted to another string of digits as specified in the conversion table.

Different strings of digits can be converted to the same internal Directory Number (DN).

Partial Digit Conversion

Not all of the digits received from the Central Office (CO) are converted. The remaining digits may remain unchanged, and the whole string of digits is forwarded to the Directory Number (DN) translator.

It is possible to convert a partial string of digits to another partial string of digits of a different length (e.g., 23xx to 4xx or 2xx to 49xx). The range of DNs to convert can include a mix of DN lengths.

No Digit Conversion

If the digits received are not defined in the conversion table, they are assumed to represent an internal Directory Number (DN). They are forwarded to the DN translator without any change.

An empty IDC table should not be programmed in a live DID route. If this is done all calls to the DID route intercept to the attendant.

Direct Call Termination

Incoming calls from non-Direct Inward Dialing (DID) trunks are not affected by Incoming DID Digit Conversion (IDC). If a call from a trunk on a route with IDC is received, the digits are translated into a pass (continue) or a converted telephone of local digits. These digits replace the dialed digits. Additional dialed digits are then forwarded directly for call processing. The IDC processor has no further influence on the call. Once the internal digit processor receives the digits, it alone determines the disposition of the call. It may be able to terminate the call, or it may be required to intercept the call due to invalid digits, a busy station, or Call Forward.

When DEXT = NO (LD 16) the Meridian 1 proprietary telephone display looks like this:

AAAA:MMM

where

AAAA = route access code, and

MMM = Route Member Number.

The display may show the name of the route if Call Party Name Display (CPND) is allowed.

When DEXT = YES (LD 16) the Meridian 1 proprietary telephone display looks like this:

AAAA:MMM Pxxxx

where

AAAA = route access code

MMM = Route Member Number

P = Special character (identifying the received digits), and

xxxx = Originally dialed digits (preconverted).

When DEXT = NO (LD 16) the Attendant Console display looks like this:

AAAA:MMM iiiii xxxx

where

AAAA = route access code

MMM = Route Member Number

iiiiii = Internal DN (called party), and

xxxx = route name if Call Party Name Display (CPND) is allowed.

When DEXT = YES (LD 16) the Attendant Console display looks like this:

AAAA:MMM#:xxxx iiiii

where

AAAA = route access code

MMM = Route Member Number

= Special character (identifying the received digits)

xxxx = originally dialed digits, and

iiiiii = Internal DN (called party).

Incoming Call Redirection

If an incoming call is redirected to a Centralized Attendant Services (CAS) or local attendant, the local DN is used to extend the call. If an incoming call reaches a Night DN, Hunt DN, Call Forward DN, or similar destination, then both the internal DN and the directory of local DNs are used to redirect the call.

Operating parameters

IDC applies to Direct Inward Dialing (DID) routes only. Auto-terminate trunks to Dialed Number Identification Service (DNIS) do not support IDC. All digits received from an incoming call translate to a maximum of four digits. Acceptable received digits for an incoming call are 0 through 9.

New Flexible Code Restriction (NFCR) is required to operate IDC. Since NFCR trees and IDC tables share the same structure, the total combined number of NFCR trees and IDC tables cannot exceed 255 per customer.

Feature interactions

EuroISDN Continuation

The Incoming Digit Conversion (IDC) feature converts incoming digits from a DID route. This feature is supported on the incoming EuroISDN DID routes. Digits received as a called party number are converted if the IDC feature is activated on the route. Digit analysis is then performed on the converted digits by the Meridian 1 Option 11C Compact.

EuroISDN Master Mode

IDC is supported on the incoming EuroISDN Master Mode connectivity DID routes. If IDC is equipped, digits received as a called party number are converted, and digit analysis is then performed on the converted digits.

ISDN QSIG Name Display

IDC trunk and name information is passed and displayed to the terminating party when no name information is received from the Direct Inward Dial (DID) trunk. The Incoming DID Digit Conversion (IDC) feature is activated, and name information is associated with the converted digit sequence.

Name information received from a DID trunk takes precedence over an IDC trunk name.

Feature packaging

Incoming Digit Conversion (IDC) package 113 requires New Flexible Code Restriction (NFCR) package 49.

Feature implementation

LD 15 – Specify maximum number of Incoming Digit Conversion trees allowed.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FCR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- NFCR	(NO), YES	(Disable) enable New Flexible Code Restriction (NFCR).
- MAXT	1-255	Maximum number of NFCR trees.
- IDCA	(NO), YES	(Disable) enable IDC.
- DCMX	1-255	Maximum number of IDC tables. Note: The sum of the values for MAXT and DCMX cannot exceed 255 per customer.

LD 49 – Create tables to convert incoming Direct Inward Dialing digits.

Prompt	Response	Description																						
REQ	NEW	Create tables.																						
TYPE	IDC	IDC tables.																						
CUST	0	Customer number.																						
DCNO	0-254	IDC tree number.																						
IDGT	0-9999 0-9999	DN or range of DNs to be converted. Examples: To convert the external DN 3440 to 510, enter: <table><tr><td><i>Prompt</i></td><td><i>Response</i></td></tr><tr><td>IDGT</td><td>3440</td></tr><tr><td>3440</td><td>510</td></tr></table> To convert external DNs in the range 3440–3465, enter: <table><tr><td><i>Prompt</i></td><td><i>Response</i></td></tr><tr><td>IDGT</td><td>3440 3465</td></tr><tr><td>3440</td><td>444</td></tr><tr><td>3441</td><td>445</td></tr><tr><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td></tr><tr><td>3465</td><td>469</td></tr></table>	<i>Prompt</i>	<i>Response</i>	IDGT	3440	3440	510	<i>Prompt</i>	<i>Response</i>	IDGT	3440 3465	3440	444	3441	445	—	—	—	—	—	—	3465	469
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3465	469																							

LD 16 – Enable digit conversion for required DID trunk routes.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
ROUT	0-511	Route number.
IDC	(NO), YES	(Do not) use digit conversion for this route.
- DCNO	0-254	IDC tree number.
- NDNO	0-254	IDC conversion table for Night mode.
- DEXT	(NO), YES	(Do not) allow Digit Display.

Feature operation

No specific operating procedures are required to use this feature.

Incremental Software Management

Incremental Software Management (ISM) introduces a new approach to system management, offering more flexibility and control over system configuration and implementation. With ISM, software ordering and pricing is based on the total count of Terminal Numbers (TNs), Automatic Call Distribution (ACD) positions (agents and supervisors), ACD Directory Numbers (ACD DN and Control DN), and Associate Telephone (AST) DN. The customer-requested configuration parameters are communicated to Northern Telecom when a new system or upgrade order is placed, and are then defined during software disk preparation.

The number of configurable Terminal Numbers (TNs) is provided in increments of 100. ACD positions are incremented by five, while ACD DN and AST DN are provided in increments of one. If an order is received without these parameters defined, the order will not be processed. The system parameters used, available, and totaled are listed in a header at the beginning of each software program. For specific system requirements and limits, refer to the Pricing Manual.

ACD parameters are preset for each system. The numbers in the header are not necessarily real limits, and are subject to system configuration. Contact your Northern Telecom representative for information regarding your system limits.

The system TNs are incremented along with the ACD agents.

Operating parameters

To calculate the Terminal Numbers (TNs) configured in the system, all TNs associated with analog (500/2500 type), and Meridian 1 proprietary telephones, ACD DN, AST DN, Attendant Consoles (two TNs per console), Digitone receivers, tone detectors, and trunks are included in the total.

The total TNs refer to Terminal Numbers (TNs) configured in LD 10, LD 11, LD 12, LD 13, and LD 14. There is no differentiating between signaling, data, or voice channels.

To calculate the number of ACD Agents configured in the system, any telephone configured as key 0 ACD is counted for the total. This includes ACD Agents and ACD Supervisors.

AST DN is not counted in the total of ACD Agents.

AST DN must be defined individually in LD 10 or LD 11.

AST DN designation is not maintained following a software conversion. All AST DN must be reconfigured after the conversion is complete.

The total ACD Agents refer to virtual and active (live) ACD Agents and ACD Supervisors.

Each Attendant Console increments the TN count twice. The first TN is designated as the primary TN, and the second TN is designated as the secondary TN. Power units are not included in the TN count.

Application Module Links (AML), D-channels (DCHs), Logical Terminal Identifiers (LTIDs), and Digital Subscriber Loops (DSLs) are tracked.

DSLs and LTIDs apply to Integrated Services Digital Network (ISDN) Basic Rate Interface (BRI) only. Refer to *ISDN Basic Rate Interface description* (553-3901-100) for more information regarding BRI.

System monitoring

To assist in monitoring system growth, a header appears in each affected overlay (LD), reflecting system status. The header indicates the total, available, and used quantities of TNs, ACD DNs, ACD positions, AST DNs, Digital Subscriber Loops (DSLs), Logical Terminal Identifiers (LTIDs), D-channels (DCHs), or Application Module Links (AMLs) configured. The counts are updated each time system activity adds or deletes one of the tracked items. When the limits are exceeded, an error message appears. For a complete list of the Service Change and error message information, see the *input/output guide*.

In addition to the headers, a new response is added to Print Routine 3 (LD 22) to query the system limits.

When the allowed limits are exceeded, any additional entry is blocked, and a SYSxxxx message is shown every time an entry is attempted. Refer to the message list in this section for the SYS message for each parameter.

The ACD parameters are allowed only if the Basic ACD (BACD) package 40 is equipped.

System administration

When the predefined limits are reached, an error message indicates that further database additions are blocked. New software must be ordered to increase system limits. In order to minimize delays in system administration, it is critical that the configuration limits be monitored and that new disks be ordered before the current parameters are exceeded.

When doing a system enhancement requiring new software, if insufficient TN, ACD DN, or ACD Agent quantities are ordered, excess TN, ACD DN, ACD Agent, and AST DN information could be lost. For example, if a system has 150 TNs configured, but the Incremental Software Management (ISM) order is for 100 TNs, the system will eliminate the additional 50 TNs. A SYS message is given if this occurs.

CAUTION

System information will be lost.

If SYS message 4327, 4328, 4329, or 4330 appears at SYSLOAD, SYSLOAD previous system disks. Order ISM disks with sufficient system parameters configured. Call your technical support department for assistance.

Feature packaging

This implementation is required for all new system installations and system upgrades.

The ACD DN's and ACD Agent and Supervisor parameters are included only if the Basic ACD (BACD) package 40 is equipped.

To configure AST DN's, Command Status Link (CSL) package 77, and Application Module Link (AML) package 209 must be equipped.

Feature implementation

The following programs contain new headers to indicate the total system limits allowed and the current system usage. New error messages are also added to warn when the limits are reached.

- LD 10: analog (500/2500 type) telephones
- LD 11: Meridian 1 proprietary telephones
- LD 12: Attendant Consoles
- LD 13: Digitone receivers and tone detectors
- LD 14: trunks
- LD 17: D-channels (DCH) and Application Module Links (AMLs)
- LD 23: ACD DN's, and
- LD 27: Digital Subscriber Loops (DSLs) and Logical Terminal Identifiers (LTIDs).

The ACD parameters are allowed only if ACD is equipped.

Each agent can be defined individually using LD 10 and LD 11. As a consequence, customers must reconfigure ACD ASTs manually through LD 10 and LD 11 when upgrading.

DSLs and LTIDs apply to Integrated Services Digital Network (ISDN) Basic Rate Interface (BRI) only. Refer to *ISDN Basic Rate Interface description* (553-3901-100) for more information.

The following implementation procedures show the header increments when TNs, ACD positions, ACD DNs, or AST DNs are added or deleted. Other than the headers, the programs have not changed. LD 22 contains a new response to query system limits.

LD 10 – Add an analog (500/2500 type) telephone.

MEM AVAIL: (U/P): 189162	USED: 154594	TOT: 343756
DISC RECS AVAIL: 94		
TNS AVAIL: 10	USED: 390	TOT: 400
ACD AGENTS AVAIL: 5	USED: 10	TOT: 15
AST SETS AVAIL: 10	USED: 3	TOT: 13

Prompt	Response	Description
REQ	NEW	Add a new telephone.
TYPE	500	Telephone type.
TN	1 0 1 0	Terminal Number.

MEM AVAIL: (U/P): 189139	USED: 154617	TOT: 343756
DISC RECS AVAIL: 94		
TNS AVAIL: 9	USED: 391	TOT: 400
ACD AGENTS AVAIL: 5	USED: 10	TOT: 15
AST SET AVAIL: 10	USED: 3	TOT: 13

LD 11 – Add a Meridian 1 proprietary telephone.

MEM AVAIL: (U/P): 189139	USED: 154617	TOT: 343756
DISC RECS AVAIL: 94		
TNS AVAIL: 9	USED: 391	TOT: 400
ACD AGENTS AVAIL: 5	USED: 10	TOT: 15
AST SETS AVAIL: 10	USED: 3	TOT: 13

Prompt	Response	Description
REQ	NEW	Add a new telephone.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	1 0 1 0	Terminal Number.

MEM AVAIL: (U/P): 189042	USED: 154714	TOT: 343756
DISC RECS AVAIL: 94		
TNS AVAIL: 8	USED: 392	TOT: 400
ACD AGENTS AVAIL: 5	USED: 10	TOT: 15
AST SETS AVAIL: 10	USED: 3	TOT: 13

LD 12 – Add an Attendant Console.

MEM AVAIL: (U/P): 189042	USED: 154714	TOT: 343756
DISC RECS AVAIL: 94		
TNS AVAIL: 8	USED: 392	TOT: 400

Prompt	Response	Description
REQ	NEW	Add a new console.
TYPE	2250	Console type.
TN	4 0 5 0	Assign this as the primary TN.
CDEN	D D	Double Density card.
SETN	4 0 5 1	Assign this as the secondary TN.

MEM AVAIL: (U/P): 188867	USED: 154889	TOT: 343756
DISC RECS AVAIL: 94		
TNS AVAIL: 6	USED: 394	TOT: 400

LD 13 – Add a Digitone receiver.

MEM AVAIL: (U/P): 188867	USED: 154889	TOT: 343756
DISC RECS AVAIL: 94		
TNS AVAIL: 6	USED: 394	TOT: 400

Prompt	Response	Description
REQ	NEW	Add a new DTR.
TYPE	DTR	Add a new DTR.
TN	158 0 10 0	Assign the DTR to this TN.

MEM AVAIL: (U/P): 189857	USED: 154899	TOT: 343756
DISC RECS AVAIL: 94		
TNS AVAIL: 5	USED: 395	TOT: 400

LD 14 – Add a trunk.

MEM AVAIL: (U/P): 188857	USED: 154899	TOT: 343756
DISC RECS AVAIL: 94		
TNS AVAIL: 5	USED: 395	TOT: 400

Prompt	Response	Description
REQ	NEW	Add a new trunk.
TYPE	TIE	Add a new TIE trunk.
TN	8 0 5 2	Assign the trunk to this TN.

MEM AVAIL: (U/P): 188802	USED: 154954	TOT: 343756
DISC RECS AVAIL: 94		
TNS AVAIL: 4	USED: 396	TOT: 400

LD 17 – Add a D-channel (DCH).

MEM AVAIL: (U/P): 188857	USED: 154899	TOT: 343756
DISC RECS AVAIL: 94		
DCHS AVAIL: 7	USED: 8	TOT: 15
AMLS AVAIL: 5	USED: 4	TOT: 9

Prompt	Response	Description
REQ	CHG	Add a DCH.
TYPE	CFN	Configuration Record.
ADAN	NEW DCH 6	Add a primary DCH on port 6.

MEM AVAIL: (U/P): 188857	USED: 154899	TOT: 343756
DISC RECS AVAIL: 94		
DCHS AVAIL: 6	USED: 9	TOT: 15
AMLS AVAIL: 5	USED: 4	TOT: 9

LD 17 – Add an Application Module Link.

MEM AVAIL: (U/P): 188857	USED: 154899	TOT: 343756
DISC RECS AVAIL: 94		
DCHS AVAIL: 7	USED: 8	TOT: 15
AMLS AVAIL: 5	USED: 4	TOT: 9

Prompt	Response	Description
REQ	CHG	Add a DCH.
TYPE	CFN	Configuration record.
ADAN	NEW AML 4	Add an AML on port 4.

MEM AVAIL: (U/P): 188857	USED: 154899	TOT: 343756
DISC RECS AVAIL: 94		
DCHS AVAIL: 6	USED: 9	TOT: 15
AMLS AVAIL: 4	USED: 5	TOT: 9

LD 23 – Add an ACD DN.

MEM AVAIL: (U/P): 188802	USED: 154954	TOT: 343756
DISC RECS AVAIL: 94		
ACD DNS AVAIL: 5	USED: 10	TOT: 15

Prompt	Response	Description
REQ	NEW	Add a new ACD DN.
TYPE	ACD	Add a new ACD queue.
CUST	1	Customer number.
ACDN	7700	Assign this ACD DN.

MEM AVAIL: (U/P): 188513	USED: 155243	TOT: 343756
DISC RECS AVAIL: 94		
ACD DNS AVAIL: 4	USED: 11	TOT: 15

LD 27 – Add a Digital Subscriber Loop (DSL).

MEM AVAIL: (U/P): 188802	USED: 154954	TOT: 343756
DISC RECS AVAIL: 94		
DSLS AVAIL: 4	USED: 6	TOT: 10
LTIDS AVAIL: 4	USED: 8	TOT: 12

Prompt	Response	Description
REQ	NEW	Add a DSL.
TYPE	DSL	Add a DSL.
DSL	l s c dsl	DSL address.

MEM AVAIL: (U/P): 188802	USED: 154954	TOT: 343756
DISC RECS AVAIL: 94		
DSLS AVAIL: 4	USED: 6	TOT: 10
LTIDS AVAIL: 4	USED: 8	TOT: 12

LD 22 – Print the system limits.

Prompt	Response	Description
REQ	SLT	Prints the limits established for the system, the used parameters, and the quantities remaining.

Additionally, to print complete information regarding system parameters, use the following print routine:

Parameter	LD	Prompt	Response
TNs	LD 20	REQ	LTN
	LD 21	REQ	PRT
		TYPE	CDB
ACD DNs	LD 23	REQ	PRT
ACD positions	LD 81	REQ	LST
		FEAT	ACD

New error messages

CAUTION

System information will be lost.

If SYS message 4327, 4328, 4329, or 4330 appears at SYSLOAD, SYSLOAD previous system disks. Order ISM disks with sufficient system parameters configured. Call your technical support department for assistance.

The following error messages relate to ISM administration. For a complete list and description of all error messages, see the *input/output guide*.

In LD 10, the Service Change (SCH) messages appear only after the FTR prompt has been answered. In LD 11, the messages appear only after the KEY prompt has been answered.

Message	Event	Action
SCH5069	The number of TNs exceeds the limit.	New disks required.
SCH5070	The number of ACD Agents (including agents and supervisors) exceeds the limit.	New disks required.
SCH5071	The number of ACD DN and CDNs exceeds the limit.	New disks required.
SCH5072	The number of AST sets exceeds the limit.	New disks required.
BUG5119	The number of TNs configured for the system is 0.	New disks required.
BUG5120	The number of ACD Agents (including agents and supervisors) configured for the system is 0.	New disks required.
BUG5121	The number of ACD DNs configured for the system is 0.	New disks required.
SYS4327 DO NOT DATADUMP. SYSTEM INFORMATION WILL BE LOST.	The TN limits are exceeded and cannot be SYSLOADED. See note.	New disks required.
SYS4328 DO NOT DATADUMP. SYSTEM INFORMATION WILL BE LOST.	The ACD Agent (including agents and supervisors) limits are exceeded and cannot be SYSLOADED. See note.	New disks required.
SYS4329 DO NOT DATADUMP. SYSTEM INFORMATION WILL BE LOST.	The ACD DN limits are exceeded and cannot be SYSLOADED. See note.	New disks required.
SYS4330 DO NOT DATADUMP. SYSTEM INFORMATION WILL BE LOST.	The AST set limits are exceeded and cannot be SYSLOADED. See note.	New disks required.
Note: Do not datadump when this message appears, or system information will be lost.		

Feature operation

No specific operating procedures are required to use this feature.

Integrated Messaging System Link

The primary objectives of Integrated Messaging System (IMS) Link are to replace written telephone messages, to minimize the need for attendant intervention in the leaving and the retrieving of messages, and to support user-to-user automatic voice messaging. These functions are integrated in Integrated Messaging System (IMS) Link capability.

Integrated Messaging System (IMS) Link provides the support required for third-party messaging systems to interface with the Meridian 1 Option 11C Compact. The calling party can leave voice messages to be retrieved by the called party at any time. Users calling from inside or outside the Meridian 1 Option 11C Compact system can leave and retrieve messages. The messaging system answers the call, delivers a personal greeting (recorded in the user's voice), digitizes the message, stores the message, and notifies the called party of a waiting message. The called party can retrieve and manipulate these messages from any Digitone telephone in the world. The user can issue a variety of commands to save or transfer messages, reply to messages, or broadcast group messages to multiple users.

To retrieve messages, each user must enter an ID code and a password. If the user calls the messaging system from his or her own Directory Number (DN), the ID code need not be entered. Any telephone with Dual Tone Multifrequency (DTMF) or Meridian 1 proprietary telephone signaling can connect to the attendant or to some other predefined DN (one DN for the entire Meridian 1 SL-1) by pressing 0. Callers with analog (500/2500 type) telephones must wait for a timeout before connecting automatically to the attendant.

The maximum length of a message will vary, depending on the messaging system equipped. User profiles are established to limit the number of messages each user is entitled to store.

Operating parameters

Users within the Meridian 1 Option 11C Compact system must have either Dual Tone Multifrequency (DTMF), or Meridian 1 proprietary telephone signaling capabilities. Users outside the Meridian 1 Option 11C Compact must have DTMF signaling.

Feature interactions

There are no interactions with other features.

Feature packaging

Integrated Messaging System (IMS) package 35, requires the following features:

- Basic ACD (BACD) package 40
- ACD Package A (ACDA) package 45, and
- Message Center (MWC) package 46.

The Auxiliary Processor Link (APL) package 109 is also required.

Feature implementation

LD 17 – Add or change the link to a messaging system. Before adding, changing, or removing a link, the device must be disabled.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN ADAN	Configuration Record. Gate opener.
IOTB	(NO), YES	(Do not) allow changes to input/output devices.
ADAN	NEW, CHG TTY 0-15	Add or change a messaging system link to the Meridian 1 Option 11C Compact.
- USER	APL	This link is an Auxiliary Processor Link (APL).
TYPE	PARM	Gate opener.

- AXQI	(20)-255	Number of call registers to be used for receipt of messages from the messaging system.)
- AXQO	(20)-255	Number of call registers to be used for output of messages to the messaging system. Note: If the number of call registers defined for the Meridian 1 Option 11C Compact system (prompt NCR) is within the range 80-1020, AXQI and AXQO cannot exceed 25 percent of the system call registers.

LD 17 – Add or change the link to a messaging system. Before adding, changing, or removing a link, the device must be disabled.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN ADAN	Configuration Record. Gate opener.
IOTB	(NO), YES	(Do not) allow changes to input/output devices.
ADAN	NEW, CHG TTY 0-15	Add or change a messaging system link to the Meridian 1 Option 11C Compact.
- CTYP	aaaa	Card type, where: aaaa = DCHI, MSDL, MSPS, SDI, SDI2, SDI4, or XSDI.
- DNUM	0-15	Device number to be printed automatically (same as ADAN number).
USER	APL	This link is an Auxiliary Processor Link (APL).
- AXQI	(20)-255	Number of call registers to be used for receipt of messages from the messaging system.
- AXQO	(20)-255	Number of call registers to be used for output of messages to the messaging system. Note: If the number of call registers defined for the Meridian 1 Option 11C Compact system (prompt NCR) is within the range 80-1020, AXQI and AXQO cannot exceed 25 percent of the system call registers.

LD 15 – Add or change the IMS feature for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
OPT	(MCX), MCI	Message Center (excluded) included.
...		
TYPE	IMS	Gate opener.
- IMS	(NO), YES	(Do not) allow changes to the IMS feature.
- IMA	(NO), YES	IMS feature (is not) or is enabled.
- - APL	0-15	Port number of the link to the messaging system.
- UST	(NO), YES	User Status Update (UST) feature (is not) or is enabled.
- - APL	0-15	Port number of the link from UST to the messaging system.
- UMG	(NO), YES	User-to-User Messaging (UMG) feature (is not) enabled.
- - APL	0-15	Port number of the link from UMG to the messaging system.

LD 23 – Add or change ACD data for Integrated Messaging System Link feature.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	ACD	ACD Data Block.
CUST	0	Customer number.
ACDN	xxxx	ACD DN (can have up to seven digits if DN Expansion package is equipped).

MWC	(NO), YES	ACD (is not) is an IMS.
- IMS	(NO), YES	(Do not) allow changes to the IMS feature.
- - IMA	(NO), YES	ACD DN (is not) is used as an IMS DN.
- - APL	0-15	Port number of the link to the messaging system.
- - UST	(NO), YES	User Status Update (UST) feature (is not) is enabled.
- - APL	0-15	Port number of the link from UST to the messaging system.
- - UMG	(NO), YES	User-to-User Messaging (UMG) feature (is not) is enabled.
- - APL	0-15	Port number of the link from UMG to the messaging system.
- - RAN	0-30, 32-xxx	Route number to the Recorded Announcement (RAN) for UMG (default is no RAN).
- - UMT	0-(6)-15	Time, in seconds, of silent interval after alert tone on RAN.

LD 11 – Add or change IMS attendant capability for each Meridian 1 proprietary telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(IMD), IMA	This telephone (is not) is an IMS attendant.

LTN	1-253, 0-15	Logical Terminal Number assigned to this attendant, port number of the link to messaging system used by this attendant.
KEY	0 ACD xxxx yyyy xx MIK xx MCK xx NRD xx MSB	Add an INCALLS key, where: xxxx = IMS Directory Number (DN), and yyyy = Agent ID. Note: IMS DN and Agent ID can have up to seven digits if DN Expansion package is equipped Add a Message Indication (MI) key. Add a Message Cancellation (MC) key. Add a Not Ready (NR) key. Add a Make Set Busy (MSB) key.

Feature operation

No specific operating procedures are required to use this feature.

Integrated Services Digital Network

Integrated Services Digital Network (ISDN) is the new standard in digital communications. Phase 1 of ISDN provides Primary Rate Access (PRA) to host computers, other PBX's, and Central Office (CO) switches. Refer to *ISDN Primary Rate Interface description and administration* (553-2901-100) for additional information.

Operating parameters

Refer to *ISDN Primary Rate Interface description and administration* (553-2901-100) for a complete description of the following ISDN features:

- Backup D-channel
- Basic Call Service
- Calling Line Identification
- Data Packet Network access
- Digital Trunk Interface replacement
- Electronic Switched Network interworking
- Integrated Services Access
- ISDN Signaling Link
- Integrated Trunk Access
- Network Call Party Name Display/Network Call Redirection
- Network Message Services
- Network Ring Again
- Remote Virtual Queuing
- Software Defined Network access

- Software Release ID
- T309 Timer
- Trunk Optimization (before answer)

Feature interactions

Refer to *ISDN Primary Rate Interface description and administration* (553-2901-100).

Feature packaging

Integrated Services Digital Network (ISDN) package 145 has no feature package dependencies.

Feature implementation

Refer to *ISDN Primary Rate Interface description and administration* (553-2901-100).

Feature operation

There is no specific procedures required to operate this feature.

Integrated Voice and Data

The Integrated Voice and Data feature provides integrated voice and data switching through a host Meridian 1.

Hardware consists of the Add-on Data Module (ADM), Data Line Card (DLC), and Modem Pool Line Card (MPLC), if modem pooling is used.

The Meridian 1 software recognizes the ADM as an SL-1 telephone, the DLC as an SL-1 Line Card, and the MPLC as a 500 telephone Line Card. Overlay LD 10 and LD 11 are used to enter the hardware into the office data.

Refer to the Northern Telecom Publication *Meridian 1 Data Services* series (553-2731-100 through 553-2731-300) for further details.

Operating parameters

Hunting is not allowed with the Modem Pool Line Card (MPLC) pack.

No analog (500/2500 type) telephones can be assigned to the MPLC pack.

Collocated SL-1 telephones can only have three key/lamp strips, due to physical constraints.

Feature interactions

Refer to Northern Telecom Publication *Meridian 1 Data Services* series (553-2731-100 through 553-2731-300).

Feature packaging

Integrated Voice and Data is included in base system software.

Feature Implementation

LD 11 – Add or change SL-1 telephone (of an SL-1 telephone/Add-on Data Module pair) associated with a Data Line Card (DLC) data port pair.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	SL1	Telephone type.
TN	c u	Terminal Number; SL-1 telephones are restricted to unit 0 or 2 when collocated with an ADM.
CDEN	SD, DD	Density of this card is single or double.
KLS	1-7	Number of key/lamp strips.
KEY	0 DN xxx...x 2 TRN 9 RLS	Key 0; Voice Frequency Directory Number. Key 2; Call Transfer key. Key 9; Release key. Note: Other feature keys may be associated as required, subject to the limitations imposed by the companion ADM.

LD 11 – Add or change ADM (of an SL-1 telephone/ADM pair) associated with a Data Line Card (DLC) data port pair.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	SL1	Telephone type.
TN	c u	Terminal Number – loop (0–159), shelf (0–1), card (1–10), unit (1, 3, 5, 7); the loop, shelf, and card must be the same as those specified for the companion SL-1 telephone; the unit must be the next subsequent unit to the companion SL-1 telephone (e.g., if the unit for SL-1 telephone is 2, the unit for ADM must be 3).
CDEN	SD, DD	Single or double density card.

CLS	WTD	Warning Tone Denied.
KEY	0 DN xxxx 1 DN xxx...x 2 TRN 3 ADL x...x 4 RGA 6 SCC 0-8190 <i>or</i> 6 SCU 0-8190 9 RLS	Key 0, data Directory Number; can have up to seven digits if DN Expansion (DNXP) package is equipped. Key 1, optional secondary data DN. Key 2, Call Transfer key (optional). Key 3, Autodial DN (optional). Key 4, Ring Again key (optional). Speed Call Controller, Speed Call List number (optional; must be on key 6 if equipped). Speed Call User, Speed Call List number (optional; must be on key 6 if equipped). Release key: must be key 9. Note: Only the feature keys listed above can be assigned to the Add-on Data Module (ADM). If they are assigned to the ADM, they must also be assigned to the companion SL-1 telephone on the same keys(i.e, if the ADM has ADL on key 3, the companion SL-1 telephone must also have ADL on key 3, with the same Autodial DN).

LD 11 – Add or change DLC data port associated with a standalone ADM.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	SL1	Telephone type.
TN	c u	Terminal Number.
CDEN	SD	Single density card.
CLS	WTD	Warning Tone Denied.
KEY	0 DN xxx...x 9 RLS	Key 0, data Directory Number. Key 9, Release key. Note: Other features/functions must not be assigned to keys 1-8.

LD 11 – Add or change Integrated Data Interface Card (IDLC) port associated with an Asynchronous Interface Module (AIM).

Prompt	Response	Description
REQ	CHG	Change.
TYPE	SL1	Telephone type.
TN	c u	Terminal Number; for AIM, unit 1 or 3 should be used.
CDEN	SD	Single density card.
CLS	WTD	Warning Tone Denied.
KEY	0 DN xxx...x 1 DN xxx...x 2 TRN 3 ADL x...x 4 RGA 6 SCC 0-8190 <i>or</i> 6 SCU 0-8190 9 RLS	Key 0, data Directory Number. Key 1, optional secondary data DN. Key 2, Call Transfer key (optional). Key 3, Autodial DN (optional). Key 4, Ring Again key (optional). Speed Call Controller, Speed Call List number (optional; must be on key 6 if equipped). Speed Call User, Speed Call List number (optional; must be on key 6 if equipped). Release key, must be key 9.

LD 16 – Define trunk route for each data port group (modem pool).

Prompt	Response	Description
REQ	NEW, CHG	Create a new route, or modify an existing one.
TYPE	RDB	Route Data Block.
CUST	0–99	Customer number.
ROUT	0–511	Route number.
TKTP	ADM	ADM route.
ACOD	xxx...x	Access code for this route.
CDPC	(NO), YES	SL-1 (is not) is the only controlling party on incoming calls.

LD 14 – Define a DLC as a trunk for each data port within the data port group.

Prompt	Response	Description
REQ	NEW, CHG	Create a new trunk or modify an existing one.
TYPE	ADM	ADM trunk.
TN	c u	Terminal Number.

LD 10 – Define a Modem Pool Line Card (MPLC) for each modem in the data port group.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CDEN	SD, DD, 4D	Single, double, or quad density card.
DN	xxx...x	Voice Frequency Directory Number; must be the same as that telephone by switches in the ADM. Note: The trunk route defined for the data port group in LD 16 cannot be used.

LD 16 – Define a route data block for each Central Office (CO), FEX, TIE, or WATS trunk route to a remote system.

Prompt	Response	Description
REQ	NEW, CHG	Create a new route, or modify an existing one.
TYPE	RDB	Route Data Block.
CUST	0-99	Customer number.
ROUT	0-511	Route number.
TKTP	COT, FEX, TIE WAT	Route type.
ACOD	xxx...x	Access code for the route.

LD 14 – Define each trunk within the route.

Prompt	Response	Description
REQ	NEW, CHG	Create a new trunk or modify an existing one.
TYPE	COT, FEX, TIE WAT	Trunk type.
TN	c u	Terminal Number.
CDEN	SD, DD	Single or double density card.

Feature operation

No specific operating procedures are required to use this feature.

Intercept Treatment

Calls that cannot be completed because of call restrictions or dialing irregularities can be routed to a Recorded Announcement (RAN), to the attendant, or to hear overflow, or busy tone. Separate treatments can be specified for calls from the following categories of originating party:

- Telephones
- Attendants
 - attendant originated
 - attendant extended
- TIE trunk, or remote attendant or telephone, and
- Controlled Class of Service Allowed (CCSA) or Direct Inward Dialing (DID) trunk.

Operating parameters

When Intercept to RAN is desired, a recording device is required. A Recorded Announcement (RAN) route and at least one trunk must be defined (see the RAN feature module).

Intercept Treatment (INTR) for these types of calls can be specified in the Customer Data Block (LD 15) for the situations listed in [Table 1](#).

Table 1
Intercept Treatment

Intercept situation	Telephone	Attendant extended calls	Calling Party TIE trunk (including attendant)	CCSA/DID trunk
Access denied (ACCD)	C(O)	C(O)	C(O)	C(A)
Call to vacant number (CTVN)	C(O)	C(O)	C(O)	C(A)
Maintenance busy number, RPE failure (MBNR)	C(O)	C(O)	C(O)	C(A)
Code or toll restricted call by Toll Denied (TLD) station or TIE trunk (CTRC)	C(O)	NA	C(O)	NA
Calls to LDNs (CLDN)	C(O)	C(O)	C(O)	NA
O = overflow tone A = intercept to the attendant C = choice of overflow tone, attendant, or Recorded Announcement (RAN) NA = not applicable Note: Items in parenthesis are the default Intercept Treatments. Where an item is preceded with "C", a choice can be made between overflow, attendant busy, or a RAN. Four entries are required for each intercept situation.				

Feature interactions

Basic/Network Alternate Route Selection (BARS/NARS)

[Table 2](#) specifies the type of Intercept Treatments (INTR) available for BARS/NARS calls, and lists the intercept situations that are possible.

Table 2
Intercept Treatment for BARS/NARS calls

Intercept situation	Station or DISA	Originating party		CCSA/DID trunk
		Attendant extended calls	TIE trunk (including attendant)	
BARS/NARS invalid (NINV)	C(O)	C(O)	C(O)	C(A)
BARS/NARS invalid translation (NITR)	C(O)	C(O)	C(O)	C(A)
BARS/NARS restricted (NRES)	C(O)	C(O)	C(O)	C(A)
BARS/NARS blocked (NBLK)	C(O)	C(O)	C(O)	C(A)
O = overflow tone A = intercept to the attendant C = choice of overflow tone, attendant, or Recorded Announcement (RAN) Note: Items in parenthesis are the default Intercept Treatments. Where an item is preceded with "C", a choice can be made between overflow, attendant busy, or a RAN. Four entries are required for each intercept situation.				

Flexible Feature Codes (FFCs)

If Intercept Treatment has been specified for a call to a vacant number (CTVN), the Digit Display (DDs) on the Attendant Console is affected by FFCs. If no FFC has been defined, the dialed digits are displayed up to and including the first digit that fails to match any Directory Number (DN). If one or more FFCs have been defined, the dialed digits are displayed, up to and including the first digit that fails to match any FFC.

Ring Again on No Answer (RANA)

A telephone that is intercepted to the attendant cannot apply RANA.

Trunk Barring

When an Originating Trunk Connection (OTC) attempts a trunk connection to a route that is restricted by its Access Restricted Table, the connection is not allowed. The intercept treatment specified in the Customer Data Block is applied.

Feature packaging

Intercept Treatment (INTR) package 11 has no feature package dependencies.

Feature implementation

LD 15 – Change customer's Intercept Treatment for various call types.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB INT	Customer Data Block. Gate opener.
CUST	0	Customer number.
INTR	(NO), YES	Allow changes to intercept treatments.
- ACCD	(OVF OVF OVF ATN)	Default Intercept Treatment for calls to access-denied numbers.
- CTVN	(OVF OVF OVF ATN)	Default Intercept Treatment for calls to vacant numbers.
- MBNR	(OVF OVF OVF ATN)	Default Intercept Treatment for calls to maintenance busy numbers.
- CTRC	(OVF NAP OVF NAP)	Default Intercept Treatment for a code or toll restricted call by a toll restricted station or TIE trunk.
- CLDN	(NAP OVF NAP)	Default Intercept Treatment for calls to a Listed DN.
- NINV	(OVF OVF OVF ATN)	Default Intercept Treatment for BARS/NARS invalid calls.
- NITR	(OVF OVF OVF ATN)	Default Intercept Treatment for BARS/NARS invalid translation calls.

- NRES	(OVF OVF OVF ATN)	Default Intercept Treatment for BARS/NARS restricted calls.
- NBLK	(OVF OVF OVF ATN)	Default Intercept Treatment for BARS/NARS blocked calls.
- - RANR	0-511	RAN route number for intercepted calls.

Feature operation

No specific operating procedures are required to use this feature.

Last Number Redial

Last Number Redial (LNR), which is defined on a customer and a telephone basis, allows the last number dialed by a user to be automatically stored. The stored number can be redialed by pressing a key on Meridian 1 proprietary telephones, or by dialing SPRE + 89 on analog (500/2500 type) telephones. The number is stored whether the call rings, is busy or answered, or a valid access code is dialed with the number. Only one number, composed of up to 32 digits (including access codes), can be stored at any one time. The new number overwrites the previously stored number.

If the telephone has a Digit Display (DDS), the called number is displayed.

Operating parameters

When making a call using Last Number Redial (LNR), no digits can be dialed before the stored number except Authorization, Charge Account, or Forced Charge Account codes. However, additional digits can follow the outpulsed LNR number.

The M3000 and the M2317 telephones have LNR as a local telephone (firmware) feature instead of as a system feature.

Feature interactions

AC15 Recall: Transfer from Meridian 1

Last Number Redial is supported with the AC15 Recall: Transfer from Meridian 1 Option 11C Compact on the first transfer, provided that the digits are outpulsed on the trunk after the End-to-End Signaling Delay timer expires. If the far end is not ready, the call will fail because no dial tone detection is performed by the Meridian 1 Option 11C Compact.

Additional transfers are supported if the stored digits are outpulsed without any treatment. For example, a route is seized and the route access code is outpulsed to the far end and interpreted as a Directory Number. No dial tone detector or timer is started, so the digits are outpulsed immediately without checking the state at the far end.

Authorization, Charge Account, Forced Charge Account codes

These codes are not stored in LNR. To use these features when calling the number stored in LNR, the code must first be dialed manually. When dial tone is returned, LNR can be used to complete the dialing.

Autodial

A number dialed using Autodial will become the LNR number on all telephones, except the M2317 and M3000.

Autodial Tandem Transfer

When you use the ADL key during an established call, the ADL number does not overwrite the Last Number Redial value.

Automatic Redial (ARDL)

An ARDL call can be activated on a number dialed using the Last Number Redial (LNK) key or by pressing the DN key twice. The ARDL number is saved as the last number redialed.

Call Modification

When a Call Modification takes place at the called Directory Number, the originally dialed number and not the number reached through Call Modification is stored as the LNR. This applies to the following features:

- All Call Forward features
- Call Pickup
- Conference
- Hunting

- Integrated Messaging System (IMS) when using Operator Revert, and
- Transfer.

The stored LNR number will not be affected when making calls using the following features:

- Numbers dialed on Call Transfer or Conference
- Attendant Recall from Meridian 1 proprietary telephones (using key)
- Call Park
- Dial Intercom
- Group Call, and
- Special Services Access Codes.

Calling Party Privacy

The Last Number Redial (LNR) feature will store the CPP code in the LNR data space if the CPP code was included in the last number dialed by the user. Any subsequent outgoing redialed call will send the Privacy Indicator to the far end.

Enhanced Flexible Feature Codes - Outgoing Call Barring

Barred DN's will be stored by Last Number Redial (LNR). DN's redialed using LNR are checked against the active OCB level.

Outgoing Call Barring (OCB) Flexible Feature Codes are not stored as the last number dialed.

Multiple Appearance Directory Number (MADN)

A last number dialed on a Directory Number (DN) with multiple appearances is stored only against the telephone from which the number was originally dialed.

Multi-Party Operations

For analog (500/2500 type) telephones, the Last Number Redial/Stored Number Redial feature can be used when normal or special dial tone is received. The last number redialed that can be stored is the first call of a consultation connection, and can be stored only after the connection is completely released.

Speed Call

A number dialed using Speed Call will become the LNR number on all telephones, except the M2317 and M3000.

Feature packaging

Last Number Redial (LNR) package 90 has no feature package dependencies.

Feature implementation

LD 15 – Enable or disable LNR for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(LRD), LRA	LNR (denied) allowed.

LD 10 – Add or change LNR for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(LND), LNA	LNR (denied) allowed.
LNRS	4-(16)-31	LNR size.

LD 11 – Add or change LNR for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(LND), LNA	LNR (denied) allowed.
LNRS	4-(16)-31	LNR size.
KEY	xx LNK	LNR key, where: xx = key number.

Feature operation

To automatically redial the last number dialed:

- 1** Lift the handset or select a free Directory Number (DN).
- 2** Press the **Last No.** or the **DN** key again.

To automatically redial the last number dialed (analog [500/2500 type] telephones):

- 1** Lift the handset.
- 2** Dial SPRE+89.

Limited Access to Overlays

Limited Access to Overlays allows the administrator to limit access to a configured database. It allows an administrator to define up to 100 login passwords in the configuration record (LD 17), each with its own set of access restrictions. For each Limited Access Password (LAPW), define the level of access the password provides:

- Only the LD numbers defined for each password can be accessed.
- Only the customer data specified can be modified by users of each password.
- Only the tenant numbers allowed can be accessed.
- Access to Print Routine LD 20 may or may not include access to the Speed Call lists.
- Access to the Configuration Record (CFN) LD 17 can be restricted to:
 - no access at all to LD 17
 - changing a user's own password only
 - full access to modify the system configuration
- With the Print Only option defined, certain users are limited to the following:
 - Access only to administration LDs that contain print commands, and can only use the print commands in those LDs.
 - Full access to all print routines: LD 20-22 and LD 81-83.
 - System commands in Traffic LD 02 are accessible only to users with access to all customers. Customer-defined commands are accessible according to the customer numbers defined for each password.

Only the highest level password users – Level 2 or PWD2 – can configure or change access for other passwords. These users are the administrators.

Implementing and using the LAPW feature does not interfere with the use of any existing passwords in the system. For a complete listing of the passwords currently used, refer to LD 17, prompts PWD2, NPW1, NPW2, and LD 15, prompts ATAC and SPWD in the *input/output guide*.

Each password can access up to 32 customer-tenant combinations. Each combination is defined by a number designator that includes the customer number (0-99) and the tenant number (0-511).

Each new Limited Access Password (LAPW) must be:

- any combination of numbers and letters (uppercase letters only)
- four to sixteen characters in length with no spaces
- leftwise unique, and
- different from existing passwords.

For example, acceptable passwords can include:

- JSMITH
- 0001
- 2GUEST, and
- TECHNICIAN.

System administrators using PWD1 and PWD2 in LD 17 define access to LDs with this feature. They may also define certain command use levels within a given LD. For instance, the administrator can specify print only access in the Configuration record (LD 17). Any other requests generate the following system message:

SCH8836 PASSWORD HAS PRINT ONLY CLASS OF SERVICE.

After calling up an LD, certain commands can be restricted from use by the same password, if that password is properly defined. Trying to use those commands without the correct password is not successful – access is denied.

Logon attempts are monitored for security. Failed attempts with invalid passwords are counted and the tally is compared with a predefined threshold. If the threshold is met or passed, the entry point (TTY or terminal) is locked out for a predetermined time set in Service Change (and password protected). Access from that point is ignored by the system for the lock-out timer defined. Lock-out conditions are reported to all maintenance terminals when they occur, with a special report to the next system administrator who logs on.

The system can keep an Audit Trail to record login information. The four columns in the Audit Trail printout contain:

- column 1 – DAT (date, appears at beginning of each day), or
LOG (a login record)
- column 2 – aa/bb (month/day), or
cc:dd (hours: minutes)
- column 3 – #ee (number associated with password)
- column 4 – ff ff . . . (LD numbers accessed)

Figure 5
Example of Audit Trail printout (LD 22)

DAT	01/02										
LOG	08:01	#03	10	11							
LOG	09:32	#04	15	10	21	57	22	11	15	21	
			14	15							
LOG	11:21	#99	12								
LOG	16:35	PWD2	15	17							

Only system administrators, logged in using PWD1 or PWD2, can access the Audit Trail from LD 22.

Administrators can change the size of the Audit Trail buffer, which can be from 50 to 1000 words (divisible by 50). When the buffer is full, new records overwrite the oldest information in the buffer (message OVL401 is sent to the active TTY and all maintenance TTYs). Printing the Audit Trail in LD 22 clears the buffer.

Operating parameters

The LAPW feature should only be enabled on a system with a completed Configuration record in LD 17 (a Meridian 1 Option 11C Compact machine that is already up and running). All passwords defined within the feature must be unique. Users and administrators cannot have more than one password defined for any one access configuration.

Feature interactions

There are no interactions with other features.

Feature packaging

Limited Access to Overlays (LAPW) package 164 must be enabled for this feature to operate.

Feature implementation

Implementing the LAPW feature requires that you change the Configuration record (CFN) in LD 17.

LD 17 – Define LAPW options and passwords.

Prompt	Response	Description
REQ	CHG, END	Change data, or terminate overlay.
TYPE	CFN PWD	Configuration data block. Gate opener.
- PWD2	xxxx	Current level 2 master password.
- NPW1	xxxx	New level 1 login password.
- NPW2	xxxx	New level 2 master password.
- LAPW	0	LAPW password number.
- - PWnn	dd...d <CR>	New password for “nn” above. No more changes to LAPW.
- - OVLA	xx xx xx . . .xx, ALL, (XALL)	Add these overlays to the list access by password PWnn. Xnn removes the overlay.
- - CUST	0-99, ALL, (XALL)	Customer number, all customers (no customers).

-- TEN	xxx xxx . . . xxx, ALL, (XALL)	Tenant list for the above customer for password access. XALL removes tenant access for this password.
-- HOST	(NO), YES	Host mode.
-- OPT	aaaa (CFPA), CFPD (LLCD), LLCA (PROD), PROA (PSCA), PSCD	Password Options allowed. Changes to all LD 17 prompts (allowed) denied. Line Load Control commands (denied) allowed. Print Only Class of Service (denied) allowed. Printing Speed Call lists (allowed) denied.
- LAPW	<cr>	Stop defining passwords.
- FLTH	0-(3)-7	Failed logon attempt threshold.
- LOCK	0-(60)-270	Lock-out time in minutes.
- AUDT	(NO), YES	Audit Trail (denied) allowed.
- SIZE	(50)-1000 (0)-65534	Word size stored in the Audit Trail buffer. For Release 18 and later.
- INIT	(NO), YES	Reset ports locked out during manual INIT.

LD 17 – Change user's LAPW password (user must log in using current LAPW).

Prompt	Response	Description
REQ	CHG	Change password options.
TYPE	CFN PWD	Configuration Record. Gate opener.
- PWD2	<CR>	Level 2 master password.
- LPWD	aaaa	Logon Password for LAPW user.
-- NLPW	xx . . . x	New logon password for LAPW user.

LD 22 – Check options available for LAPW passwords (administrator).

Prompt	Response	Description
REQ	PWD	Lookup password options.
PWD2	xxxx	Level 2 master password.
Note: LAPW password options are output to the active TTY only. Options format is shown below:		
FLTH	x	Failed logon attempt Threshold.
LOCK	xx	Lock-out time in minutes.
AUDT	aaa	Audit Trail allowed (denied).
SIZE	xxxx	Word size stored in the Audit Trail buffer.
INIT	aaa	Reset ports locked out during manual INIT.
PWD1	xxxx	Level 1 master password.
PWD2	xxxx	Level 2 master password.
PWxx	aaaa . . .	LAPW password number and password.
OVLA	xx xx xx . . .	Overlays accessible by this password.
CUST	xx TEN xxx	Customer number and tenant numbers accessible.
HOST	No	Host mode.
OPT	aaaa . . .	Password options allowed.

LD 22 – Print options for LAPW password (user).

Prompt	Response	Description
REQ	PWD	Print passwords.
PWD2	<CR>	Administrator's password.
Note: Options available to the logged on password are printed. The format is shown below:		
PWxx	aaaaaa . . .	LAPW password number and password.
OVLA	xx xx xx . . .	Overlays accessible by this password.
CUST	xx TEN xxx	Customer number and tenant numbers accessible.
Host	No	Host mode.
OPT	aaaa . . .	Password options allowed.

LD 22 – Print contents of Audit Trail buffer (allowed if using PWD1 or PWD2).

Prompt	Response	Description
REQ	PRT	Print.
TYPE	AUDT	Audit Trail.

Feature operation

To bypass a specific restriction imposed by the Limited Access to Overlays feature, enter the appropriate password as defined in LD 17.

Line Lockout

When a user remains off hook without dialing any digits, a timeout occurs. The transmission path is released for other uses. Dial tone timeout and interdigit timeout for telephone and Direct Inward System Access (DISA) trunks are considered Line Lockout situations.

The 2500 telephones lock out after 15 seconds. Meridian 1 proprietary telephones, and 500 telephones lock out after 30 seconds. When Line Lockout occurs, the system gives overflow tone for 14 seconds and then puts the telephone in a lockout state. Meridian 1 proprietary telephones are idled, and analog (500/2500 type) telephones appear busy to any incoming calls. DISA calls receive overflow tone.

Flexible Line Lockout – This enhancement provides three options for lockout treatment for stations and DISA calls. Flexible Line Lockout can perform any of the following functions:

- provide the existing overflow tone and then lockout treatment
- immediately intercept calls to the attendant, or
- receive overflow tone and then intercept to the attendant.

When a call is intercepted to the attendant, ringback is returned and the call appears at the Attendant Console on a designated Line Lockout (LCT) Incoming Call Indicator (ICI) key. If an LCT ICI key is not defined, the call is treated as a normal incoming call.

When the attendant answers the call, the Directory Number (DN) of the originating telephone, followed by the name (if Call Party Name Display is enabled), is displayed on the console. The attendant may then terminate the call or offer assistance to the call originator.

Flexible Line Lockout Timers – This enhancement to Flexible Line Lockout provides three variable Line Lockout timers. The timers are defined in LD 15, and range from 0 to 60 seconds.

Operating parameters

TIE trunk calls do not receive overflow tone during Line Lockout, and do not receive Flexible Line Lockout treatment.

Feature interactions

Attendant Blocking of Directory Number

If an Attendant Blocking of DN attempt is made on a set in Line Lockout state, busy tone will be returned.

Attendant Overflow Position (AOP)

A call intercepted to the attendant due to Flexible Line Lockout receives AOP treatment if the feature package is equipped and the AOP Directory Number (DN) is defined.

Call Detail Recording (CDR)

If a Direct Inward System Access (DISA) call routes to the attendant due to Flexible Line Lockout, and CDR is selected for incoming trunk calls, a call record generates when the attendant terminates the call after answer. The CDR record shows the attendant number and the route and member numbers.

If the attendant extends the call, the CDR record generates when the call is terminated. The CDR record does not show the attendant Directory Number (DN).

Display

If a call from a telephone equipped with a display is intercepted to the attendant due to Flexible Line Lockout, the telephone displays the digits dialed, if any, before the intercept. If no digits are dialed, the attendant DN and name (if configured) will be displayed. When the attendant answers the call, the console displays the DN and the number zero (0), or any digits dialed and the name (if configured) of the telephone intercepted.

Recorded Overflow Announcement (ROA)

Calls intercepted to the attendant due to Flexible Line Lockout receive ROA treatment if the Line Lockout (LCT) Incoming Call Indicator (ICI) key is configured for ROA.

System Overflow Tone

If the option for Flexible Line Lockout to the attendant is enabled, any call that is given overflow tone (e.g., if the wrong access code is dialed, or if the telephone is not allowed to dial the Trunk Access code) is intercepted to the attendant on overflow timeout.

Feature packaging

Line Lockout is included in basic system software.

Feature implementation

LD 15 – Implement Flexible Line Lockout for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB INT	Customer Data Block. Gate opener.
CUST	0	Customer number.
ICI	0-19 LCT	Assign a Flexible Line Lockout Incoming Call Indicator (ICI) key to Attendant Consoles.
- LLT		Line Lockout treatment.
	(OVF)	Overflow tone, then lockout.
	OFA	Overflow tone, then attendant intercept.
	ATN	Attendant intercept.
- DLT		Line lockout treatment for Direct Inward System Access (DISA) calls.
	(OVF)	Overflow tone, then lockout.
	OFA	Overflow tone, then attendant intercept.
	ATN	Attendant intercept.
TYPE	TIM	Gate opener.

- DIND	2-(30)-60	Dial tone and interdigit timeout for Meridian 1 proprietary telephones, and 500 telephones.
- DIDT	2-(14)-60	Dial tone and interdigit timeout for 2500 telephones.
- BOTO	2-(14)-60	Busy tone and overflow tone timeout for all telephones.

Feature operation

No specific operating procedures are required to use this feature.

Make Set Busy

The Make Set Busy (MSB) feature allows Meridian 1 proprietary telephones to appear busy to all incoming calls. Outgoing calls can still be made from the telephone. To activate this feature, a separate MSB key/lamp pair must be assigned. Incoming calls to Multiple Appearance Directory Numbers (MADNs) in the MSB mode are still signified by the indicator next to the Directory Number (DN) key, and can be answered even while MSB is active. Calls to any Single Appearance Directory Number on the telephone receive a busy indication.

Make Set Busy Flexible Feature Codes

A user may activate Make Set Busy from an analog (500/2500 type) telephone by dialing the Make Set Busy Activate (MSBA) FFC (defined in LD 57). To deactivate Make Set Busy, the user dials the Make Set Busy Deactivate (MSBD) FFC (defined in LD 57) or the general Deactivate (DEAF) FFC (also defined in LD 57).

Operating parameters

Make Set Busy does not affect incoming Private Line calls.

Feature interactions

Attendant Blocking of Directory Number

The Attendant Blocking of DN feature will override the Make Set Busy feature. If the dialed DN of the set that has the Make Set Busy feature is idle, the DN will be blocked and if the DN is busy, busy tone will be heard.

Attendant Break-In

For a telephone with Make Set Busy in effect, Break-In is temporarily denied to the attendant. The Break-In lamp uses a slow flash to indicate this situation. Using the Break-In key prior to dialing the destination DN

circumvents this situation. After the Break-In, the telephone returns to its prior status.

Automatic Call Distribution

See *Automatic Call Distribution feature description* (553-2671-110) for information on MSB operations.

Busy Lamp Field

When a Make Set Busy key is activated, the Busy Lamp Field array will indicate that the first DN only on that set is busy.

Call Forward All Calls

Call Forward All Calls and then Hunting take precedence over MSB.

Enhanced Override

Telephones with MSB active cannot be affected by Forced Camp-On or Priority Override. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-On or Priority Override.

Enhanced Flexible Feature Codes - Customer Call Forward

Customer Call Forward takes precedence over Make Set Busy if both features are active.

Flexible Feature Code enhancement

The Deactivate FFC can be used to deactivate Make Set Busy.

Forced Camp-On

Voice Call is blocked by Make Set Busy.

ISDN QSIG Call Completion

Sets that have Make Set Busy (MSB) activated can request Call Completion to another DN, as the free notification overrides the MSB feature. Incoming Call Completion to Busy Subscriber (CCBS) requests do not override the MSB feature. A set is considered busy while MSB is active. A CCBS request is registered against a busy set, but only advances when the MSB feature is deactivated and the set remains free.

Make Set Busy and Voice Call Override

This feature allows an incoming voice call to override the Make Set Busy feature activated on a Meridian 1 proprietary telephone, and to terminate on the telephone. The telephone is given a two-second burst of ringing tone before the call connection is established.

All other incoming call types remain blocked by Make Set Busy.

Priority Override

Telephones with MSB active cannot be overridden. Overflow (fast busy) tone is returned to telephones attempting Priority Override. Voice Call is blocked by MSB.

Feature packaging

Make Set Busy (MSB) package 17 has no feature package dependencies.

The following packages are required for Make Set Busy FFCs:

- Flexible Feature Codes (FFC) package number 139, and
- Background Terminal Facility (BGD) package 99.

Feature implementation

LD 11 – Add or change MSB for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx MSB	Add an MSB key (must be key 30 for M3000 telephones). xx = key number.

Feature operation

To make a telephone appear busy to callers:

- Without lifting the handset, press the MSB key. The indicator lights steadily and the telephone will not receive calls.

To cancel MSB:

- Without lifting the handset, press the MSB key. The indicator light is extinguished.

The following instructions are for using Make Set Busy FFCs:

- Activate
The user must dial the Make Set Busy Activate (MSBA) FFC.
- Deactivate
The user must dial the Make Set Busy Deactivate (MSBD) FFC or the Deactivate (DEAF) FFC.

Make Set Busy and Voice Call Override

This feature allows an incoming voice call to override the Make Set Busy feature activated on a Meridian 1 proprietary set, and to terminate on the set. The set is given a two-second burst of ringing tone before the call connection is established.

All other incoming call types remain blocked by Make Set Busy.

Operating parameters

A Voice Call key on a Meridian 1 proprietary set can only be programmed to a single appearance DN.

The set being voice called must be equipped with a speaker.

Feature interactions

Do Not Disturb

Voice calls are not allowed on a set with attendant-activated Do Not Disturb.

Feature packaging

The Make Set Busy and Voice Call Override feature is part of base system software.

Feature implementation

LD 15 – Enable Make Set Busy Voice Call Override.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
...		
- OPT	(VOBD), VOBA	Voice Override Busy (denied) allowed. The response to the OPT prompt has to be VOBA to allow a voice call to override a Make Set Busy condition.

Feature operation

The following example illustrates how a voice call can be made to a set with MSB active:

In this example, Set A is a BSC set with a **VCC** key programmed with the DN of a single appearance key on set B.

Set B is a Meridian 1 proprietary set with a single appearance DN key. Set B has a **Make Set Busy** key which has been activated.

- 1** A goes off-hook.
 A receives dial tone.
- 2** A presses the **VVC** (Voice Call) key.
 A's VCC key lamp is lit and A receives ringback tone. B receives a two-second burst of ring tone. B's terminating DN key lamp flashes.
- 3** After two seconds:
 Set A has a one-way voice path to set B. B's DN key lamp is lit. Ring tone to B stops. Ringback tone to A stops. B's Make Set Busy lamp remains lit.
- 4** If B goes off-hook, A and B are connected in a normal two-way conversation.

Malicious Call Trace

Malicious Call Trace (MCT) allows users of selected telephones to activate a call trace that results in a printed report of the calling and called parties. The report is generated on all system TTY's designated as maintenance (MTC) terminals.

Malicious Call Trace (MCT) is activated either by Dial Access from single-line (analog [500/2500 type] sets), SL-1 and Meridian 1 digital telephones (Meridian 1 proprietary sets), or by key access from SL-1 telephones, Meridian 1 digital telephones, and Attendant Consoles.

If the initiator hears overflow tone, the call trace has failed for one of the following reasons:

- The station does not have Malicious Call Trace Allowed (MCTA) Class of Service (CLS)
- The station is not established on an active call, or
- The system could not allocate a print register to store the trace information.

An attendant can activate Malicious Call Trace (MCT) only from an Attendant Console by using the Trace (TRC) feature key. When the Trace (TRC) key is pressed, the system prints a trace report on the source party, the destination party, or both, depending on whether the source key, the destination key, or both keys are active.

The MCT record identifies the source or destination (or both) by printing S or D (or both) prior to the time and date stamp of the record.

Enhanced Malicious Call Trace

The above feature provides the following enhancements:

- Malicious Call Trace is now supported on Central Office (CO), Direct Inward Dial (DID) trunks.
- The alarm has a flexible ring timer, allowing a user-selectable range of from 0-15 minutes instead of being fixed at 15 minutes.
- The malicious call can now be recorded by using a recording trunk.
- The call trace record can now be printed on any Serial Data Interface (SDI) port when MCT is defined as a user. It is also written to the history file.

Note: If MCT is not defined, the record is still printed on the maintenance TTY(s) only.

- The format of the call trace record tells you whether the call type is internal or external. The record identifier is now either MCI for internal or MCE for external.

The user may configure an alarm to ring for a flexible period of time (0-15 minutes) for both internal and external calls. If the alarm DN goes off hook, it stops prior to the flexible alarm timer expiring.

Trace Number (TRC) Key Lamp Status

The TRC key lamp status indicates the progress and success of the Malicious Call Trace request signaling to the CO and availability of the recorder. The following are the lamp states:

Lamp Winking

Activation of the TRC key changes the lamp from dark to winking (fast flashing) if the trunk involved in the call requires the signaling to be done. The lamp remains winking, indicating a transient state, until the call trace request signaling to the CO has been completed.

In a Meridian 1 Customer Defined Network (MCDN) tandem scenario, the set which originated the call trace remains winking until a Facility message is received from the node nearest to the Central Office. The user cannot invoke MCT again while the lamp is in the winking state.

Lamp Lit

If the call trace request to the CO is successful and the recorder is conferenced in the call, the lamp state is changed to lit.

In an MCDN tandem scenario, the lamp goes from winking to lit if a Facility message received from the node nearest to the CO indicates that the MCT request was successful. Activation of the TRC key during this state is ignored.

Lamp Flashing

The lamp flashing (slower frequency than winking) indicates that the call trace request to the CO was transmitted successfully, but a recorder could not be conferenced in. Activation of the TRC key during this state regenerates the MCT record, activates the alarm, and again attempts to conference in the recorder. The call trace request signaling to the Central Office is not transmitted again.

Lamp Dark

This lamp state indicates an idle TRC key or failure of the call trace request to the CO.

In an MCDN tandem scenario, the lamp goes from winking to dark if a Facility message received from the node nearest the CO indicates that the MCT request was unsuccessful.

Activation of the TRC during this state initiates all call trace elements again including: transmission of trunk hook flash; conferencing a recorder (if one is not already hooked in); generating an MCT record; and activating an alarm.

Operating parameters

The MCT feature is implemented on a system basis.

Assignment of the Trace (TRC) key cannot be done through the Attendant Administration feature.

The Enhanced MCT feature is available with all telephone types except BRI.

The TRC key cannot be assigned as a soft key on Meridian 1 digital telephones.

Any country using flexible firmware flash timing (60-1536 msec.) requires the Generic XFCOT cards NTCK16AE or NTCK16BE, or the Extended Flexible Universal Trunk (EXUT) card NT8D14BA. For any country not using either the Generic Extended Flexible Central Office Trunk (XFCOT) card or the EXUT card, the same functionality is provided by software control.

MCT can be activated against only one established call at a time, regardless of the number of TRC keys defined.

The Meridian 1 Option 11C Compact is responsible for seizing the trunk to which recorders are connected. When a recorder is involved in the call, the call is treated as a conference call. The party on the source side is allowed to disconnect from the call; doing so also disconnects the recorder and resets the TRC key lamp to dark.

There is no special provision for warning tones while there is a conference with the recording device. The trunk is seized on the basis of the SRCH prompt in LD 16.

The following hardware is required to activate this feature on STE, RT, XT, NT and Options 21E, 51, 61, 61C, 71 and 81 machine types: Analog CO/FX/WATS QPC525A; DID trunk QPC449B LP TRK, QPC825; CO trunk QPC832; XFCOT card NTCK16AE, NTCK16BE; EXUT card NT8D14BA; 1.5 Mbps DTI interface QPC472E; 2.0 Mbps DTI interface QPC536B; PRI2 interface NT8D72AA; Digitone Receiver QPC574A, NT8D16AB; Tone and Digit Switch (TDS) QPC609D, NTAK03AA; Recorded telephone trunk QPC71; Conference card QPC444A, NT8D17CA; and MSDL card NT6D80AA. Note these are the minimum vintages required.

The following hardware is required for the Option 11: XUT NT8D14A; TDS/Digitone Receiver (DTR) NTAK03AA; CPU/CONF NAK01AA; 2.0 Mbps Primary Rate Interface (PRI) NTAK79AA; D-channel Handler (DCH) loadware NTBK50, NTBK51; 1.5 Mbps Digital Trunk Interface (DTI) NTAK09AA; 2.0 Mbps DTI NTAK10AA; Recorded telephone trunk NT8D14; and Generic XFCOT card NTCK16AE or NTCK16BE; and EXUT card NT8D14BA.

Feature interactions

Malicious Call Trace

Calling Party Privacy

Incoming calls to stations having the Malicious Call Trace feature enabled will continue to include the Terminal Number (TN) of the calling party in the Malicious Call Trace record, even if the caller has requested CPP.

Conference Call

When a station or console that is on the conference loop activates the MCT feature, the trace record shows only the conference loop number and conference number as the ORIGIN, and the Terminal Number (TN) of the station or console that activated the feature as the TERTN. No information on the other parties in the conference is given.

History File

The MCT records are stored in the History File if it has been defined as a maintenance (MTC) user in LD 17.

Meridian 911

The Malicious Call Trace (MCT) feature is modified to be supported on Automatic Call Distribution (ACD) sets. ACD sets are allowed to have the MCTA Class of Service and a TRC key defined. The feature is activated via pressing the MCT key or dialing a MCT access code.

Enhanced Malicious Call Trace

Autodial Tandem Transfer

The Trunk Hook Flash functionality is used by Autodial Tandem Transfer and Enhanced Malicious Call Trace.

Automatic Call Distribution (ACD) Emergency Key (EMR)

The Malicious Call Trace feature operates in a similar manner to the ACD emergency key feature when conferencing a recording. In this enhancement, the ACD set can activate both the Malicious Call Trace and ACD EMR features.

Called Party Control (CDPC) Option

Prior to this feature, the CDPC option was not supported for conference calls. The CDPC option is now supported if the conference contains exactly one recording trunk, one MCT activating party and one other trunk. This is done to make the recorder transparent to the user. The CDPC option remains unsupported for all other conference calls.

Centrex Switchhook Flash

Interaction with the Centrex switchhook flash results because the flash range is changed for this feature. Communication to the CO (trunk hook flash) is performed by using the Centrex switchhook flash feature base code. The enhanced range is available for the Centrex switchhook flash.

Conference Call

If MCT is activated during a conference, the trace record shows the conference number and the conference loop number. Trace records are printed for each party involved in the conference. The originator of the call's trace record is printed first.

History File

If the SDI port is defined as an MCT user in LD 17 or the SDI port as a maintenance (MTC) user in LD 17, the MCT records can be stored in the History File. If MCT and MTC users are both defined on the TTY in LD 17, MCT records can also be stored in the History File.

Malicious Call Trace DN/TN Print

If the option MCDC (in LD 15) is set, a second line is added in the MCT reports to show the DN of both parties of the call. If Calling Line Identification (CLID) is available, it is printed in the second line.

Malicious Call Trace Idle Signal

The existing operation of the Malicious Call Trace Idle Signal feature is unchanged.

M911

The Trunk Hook Flash functionality is used by M911, Enhanced Malicious Call Trace, and Autodial Tandem Transfer.

Feature packaging

Malicious Call Trace (MCT) and Enhanced Malicious Call Trace (EMCT) require Malicious Call Trace (MCT) package 107.

For ISDN environments, ISDN packages are required based on the node and network interface applicable to the specific country.

Feature implementation

LD 10 – In order to activate Malicious Call Trace from an analog (500/2500 type) set, the user has to dial SPRE + two-digit access code (83) or the MCT Flexible Feature Code FFC.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	500	Analog (500/2500 type) set data block
TN	c u	Terminal Number.
CLS	MCTA, MCTD	Malicious Call Trace is allowed if Class of Service is MCTA.

LD 11 – In order to activate Malicious Call Trace from a Meridian 1 proprietary set, it should have CLS MCTA, and the TRC key should be defined. However, the same function can be achieved using a transfer or conference key and the SPRE + 83 or the MCT FFC.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(MCTD), MCTA	Malicious Call Trace is allowed if Class of Service is MCTA.
...		
KEY	xx TRC	Key number; Malicious Call Trace. Allowed when CLS = MTA. Key lamp not required. MCT is applied on a TN basis. This key can be configured on ACD telephones.

LD 17 – In order to print the MCT record on a dedicated MCT TTY port, USER type MCT has to be defined.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN ADAN	Configuration Data Block. Gate opener.
- ADAN	xxx TTY yy	xxx = NEW or CHG. yy = port number 0-63 or 0-15.
- USR	MCT	Dedicated TTY port for MCT record.

LD 16 – Set up the recorder route.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	RDB	Route Data Block.
ROUT	xxx	Route number.
TKTP	RCD	Recorder trunk data block.
ACOD	xxxx	Recorder route access code.

LD 14 – Set up the recorder trunk.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	RCD	Recorder trunk.
TN	c u	Terminal Number.
CUST	0	Customer number.
RTMB	xxx xxx	Trunk route and member number for RCD.

LD 15 – Set up the recorder and alarm options.

Prompt	Response	Description
REQ	CHG, PRT, END	Change, print, or end.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
...		
- ALDN	xxxxxxx	DN for the alarm (the DN must be on the local system).
- ALRM	(NO), YES	The ALRM prompt appears only if ALDN is defined. ALRM has to be set to YES if the alarm is to be rung for any call (external or internal) when MCT is activated.
- TIME	0-(15)	Time is prompted only if ALRM is set to YES. Time for the alarm is set in one-minute increments from 1 to 15.
- INT	(NO), YES	INT is prompted only if ALRM is set to YES. In addition, INT must be YES if the alarm is to be rung when MCT is activated against internal calls.
- RECD	(NO), YES	If the user wants the recorder, set RECD to YES. This prompt does not appear when a new customer is being defined.
- - MCRT	xxxx	The user has to use the recorder route number defined in LD 16. It will only be prompted if the RECD is set to YES.

LD 16 – Set up the alarm for external calls.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	RDB	Route data block.
TKTP	DID, COT	Direct Inward Dial or Central Office trunks.
ALRM	(NO), YES	Malicious Call Trace is allowed for external calls when the response is YES.

LD 57 – In order to activate Malicious Call Trace from an analog (500/2500 type) set without using the SPRE and 83, the MCT FFC has to be defined.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Flexible Feature Code.
CUST	0	Customer number.
CODE	MTRC	Malicious Call Trace.
MTRC	xxxx	Flexible Feature Code for Malicious Call Trace.

LD 16 – For analog and 1.5 Mbps digital trunks, the flash range to be sent to the Central Office is configured using the FLH timer. In order to send the string to the Central Office, MCCD has to be defined.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	RDB	Route data block.
RCLS	(EXT), INT	Class marked route as (external) or internal.
...		
CNTL	YES	Changes control or timers.

- TIMR	FLH <space> 60-(510)-1536	Flash timer in msec. The range of the Centrex switchhook flash timer is 60-(510)-1536. The FLH value is rounded down to the nearest 10 msec. tick. If the value entered is 128 or 129, then it is set to 130 msec. <i>Software controlled flash</i> 60-127 msec. Digit 1 will be sent. 128-1536 msec. software controlled switchhook flash. <i>Firmware controlled flash</i> The user can enter any value from 60 to 1536 msec. 90 msec. is the hardcoded firmware flash for an XFCOT card; the technician should enter 90 msec. Note: the FWTM prompt must be set to YES for the trunk associated with this route in LD 14, if firmware timing is to be used.
...		
MCTS	(NO), YES	Enter YES to get the new prompts
MCCD	0-8 digits	The call trace request string can be 0-8 digits in length. Valid digits are 0-9, * and #.
MCDT	(0)-4	Digit string delay is in seconds, in increments of one second.

LD 14 – The FWTM prompt is provided for EXUT and XCOT cards. This prompt should be set to YES if firmware timing is to be done for the flash and the card supports this functionality. If the prompt is set to YES for one unit, it is also set to YES for all other units.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	DID, COT	Trunk type.
TN	c u	Terminal Number.
XTRK	EXUT	Card type

FWTM	(NO), YES	Firmware timing for the trunk hook flash is available. This prompt is set to YES if firmware timing for trunk hook flash is supported by the card.
CUST	0	Customer number.
RTMB	xxx yyy	xxx – Trunk route. yyy – Member number for RCD.

LD 73 – Define the DTI2 flash time range.

Prompt	Response	Description
REQ	NEW, CHG, PRT	New, change, or print.
TYPE	DTI2	
FEAT	abcd	Digital signaling category.
SICA	2-16	SICA table number.
...		
FALT (R)	abcd N	Received bits. If FALT (receive) signal is not required.
P RRC(S)	abcd	Register recall signal activated by MCT.
TIME	10-(100)-630	Time of RRC(S) signal in milliseconds. This is the flash duration used for 2.0 Mbit DTI trunks. It is programmable in one-millisecond increments from 10 to 630.

Feature operation

To trace a malicious call from an analog (500/2500 type) telephone:

- 1 Flash the switchhook. A special dial tone signifies that the call is on hold.
- 2 Enter SPRE+83. You are reconnected to the call.

To trace a malicious call from a Meridian 1 proprietary telephone using Special Prefix (SPRE) code:

- 1** Press **Transfer** or **Conference**. A special dial tone signifies that the call is on hold.
- 2** Enter SPRE+83. You are reconnected to the call.

To trace a malicious call from a Meridian 1 proprietary telephone using the Trace (TRC) key:

- 1** Press **Call Trace**. You remain connected to the call.

Malicious Call Trace DN/TN Print

This enhancement adds a new (second) line to the Malicious Call Trace (MCT) record, printed on the maintenance TTY. This new line provides information about the DN's of the calling and called parties. For trunk calls, the Calling Line Identification (CLID) number (if available) is printed. This enhancement does not change the functionality of the Malicious Call Trace feature.

Operating parameters

The same as for Malicious Call Trace.

Feature interactions

The same as for Malicious Call Trace.

Feature packaging

Malicious Call Trace (MCT) is package 107.

Feature implementation

LD 15 – Respond to the MCDC prompt as follows:

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
...		
- MCDC	(NO), YES	(Deny) allow the printing of Malicious Call DN/CLID information for the originating and terminating parties.

Feature operation

The modified MCT record output format is as follows:

First Line

Field No. Field Type Contents

- 2 Record Type MCT++
- 3 Customer No. CUSTxx++
- 4 Originator<*>TNlscu++/<*>TNlc++/<*>CFlc++
- 5 Terminator<*>TNlscu++/<*>TNlc++/<*>CFlc++
- 6 Source/Dest.+/S/D++
- 7 Time stamp hh:mm:ss++MM/DD/YYYY
- 8 CNID CNID#xxxxxxxxxxxxxxxxxx

Second Line

Field No. Field Type Contents

- 1 Originator<*>DNxxxxxxxxxxxxxxxxxxxx+
- 2 Terminator<*>DNxxxxxxxxxxxxxxxxxxxx+

or it could be of the following combinations of a DN and CLID number:

- 1 Originator<*>CLID#xxxxxxxxxxxxxxxxxxxx++
- 2 Terminator<*>DNxxxxxxxxxxxxxxxxxxxx+

or

- 1 Originator<*>DNxxxxxxxxxxxxxxxxxxxx+
- 2 Terminator<*>CLID#xxxxxxxxxxxxxxxxxxxx++

Manual Line Service

Manual Line Service allows all calls made from an analog (500/2500 type) telephones defined as manual telephones to be handled automatically by an attendant. When the caller goes off-hook, the attendant is contacted immediately. Calls can be placed to telephones with Manual Line Service.

Operating parameters

Manual Line Service applies only to analog (500/2500 type) telephones.

Feature interactions

Attendant Alternative Answering (AAA)

When AAA is defined, Manual Line Service follows the AAA parameters.

Attendant Overflow Position (AOP)

When AOP is defined, Manual Line Service follows the AOP directions.

Night Service (NSVC)

When the system is in NSVC mode, all telephones with a manual Class of Service are routed to the telephone designated as the night number for the customer group.

Phantom Terminal Numbers (TNs)

Manual Line Service cannot be enabled on a phantom TN.

Feature packaging

Manual Line Service is included in base system software.

Feature implementation

LD 10 – Define Class of Service for Manual Line telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
DN	xxx...x	Directory Number assigned to the telephone.
CLS	MNL	Arrange telephone for Manual Line Service.

Feature operation

To use Manual Line Service from an analog (500/2500 type) telephone, lift the handset. You are automatically connected to the attendant.

Manual Signaling (Buzz)

Manual Signaling (Buzz) permits a Meridian 1 proprietary telephone user to sound a buzz tone at a specific telephone. The Meridian M3000 Touchphone provides the buzzing capability by means of an Active State screen softkey.

To activate this feature, a separate buzz key must be equipped. An associated lamp or indicator is not required, however.

The buzz tone continues as long as the key remains depressed. Manual Signaling (Buzz) has no impact on an existing call or on other active features. If the other telephone is busy on a call, it will still buzz, even if it is a Handsfree call.

Operating parameters

Manual Signaling (Buzz) does not apply to analog (500/2500 type) telephones.

Only Single Appearance Directory Numbers can be buzzed.

Feature interactions

There are no interactions with other features.

Feature packaging

Manual Signaling (Buzz) is included in base system software.

Feature implementation

LD 11 – Add or change Manual Signaling (Buzz) for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx SIG yyy...y	Add a Manual Signaling (Buzz) key, where: xx = key number, and yyy...y = DN to be buzzed (must be a Single Appearance Directory Number).

Feature operation

To buzz a specific telephone:

- Press **Buzz**. The other telephone emits a buzz sound from the speaker for as long as you hold down the Buzz key.

Manual Trunk Service

Manual outgoing trunk service permits you to complete an outgoing call, after ringing the trunk, by dialing a predefined trunk access code. Manual incoming trunks, when seized at the far end, are automatically terminated on a specified Directory Number (DN) or, if no DN is specified, at the attendant.

Manual Trunk Service is defined by the trunk Class of Service, and can be applied to outgoing, incoming, and outgoing/incoming trunks. This feature is available to the Central Office (CO), FX, WATS, and TIE trunks with an immediate start arrangement.

Operating parameters

Manual incoming service can be applied to TIE trunks only.

Feature interactions

There are no interactions with other features.

Feature packaging

Manual Truck Service is included in base system software.

Feature implementation

LD 16 – Add or change an incoming manual trunk route.

Prompt	Response	Description
REQ	NEW, CHG	Create a new route, or modify an existing one.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
ROUT	0-511	Route number.
TKTP	TIE	Incoming manual trunks (must be TIE trunks).
ICOG	ICT	Incoming route.
ACOD	xxxx . . x	Trunk route access code.

LD 14 – Add or change an incoming manual trunk.

Prompt	Response	Description
REQ	NEW, CHG	Create a new trunk, or modify an existing one.
TYPE	TIE	TIE trunks are required for manual incoming trunks.
TN	c u	Terminal number.
CUST	0	Customer Number.
RTMB	rrr mmm	Route and member number.
MNDN	xxx...x	Directory Number for automatically terminate.
SIGL	aaa	Trunk signaling, where: aaa = DX2, DX4, EAM, EM4, GRD, LDR, LOP, or OAD.
STRI	IMM	Incoming start arrangement.
SUPN	(NO), YES	Answer and disconnect supervision (not required) or required.
CLS	(MID), MIA	Manual incoming service (denied) allowed.

LD 16 – Add or change an outgoing manual trunk route.

Prompt	Response	Description
REQ	NEW, CHG	Create a new route, or modify an existing one.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
ROUT	0-511	Route number.
TKTP	aaa	Outgoing trunk type, where: aaa = ADM, AID, ATVN, AWR, CAA, CAM, COT, CSA, DIC, DID, FEX, ISA, ISL, MDM, MUS, PAG, RAN, RCD, RLM, RLR, TIE, or WAT.
ICOG	OGT	Outgoing route.
ACOD	xx . . x	Trunk route access code.
MANO	YES	Enable manual outgoing trunk route.

LD 14 – Add or change an outgoing manual trunk.

Prompt	Response	Description
REQ	NEW, CHG	Create a new trunk, or modify an existing one.
TYPE	aaa	Outgoing trunk type.
TN	c u	Terminal Number.
CUST	0	Customer number.
RTMB	rrr mmm	Route and member number.
MNDN	xx...x	Directory Number for automatically terminate.
SIGL	aaa	Trunk signaling, where: aaa = DX2, DX4, EAM, EM4, GRD, LDR, LOP, or OAD.

Feature operation

No specific operating procedures are required to use this feature.

Message Waiting Lamp Maintenance

This maintenance enhancement alleviates the “dark effect” when neon lights are tested in low ambient light conditions.

Because the dark effect is inherent to neon lamps, it is recommended that PBXT Message Waiting Lamp tests not be run during low ambient light conditions. The line card detector circuitry may register lamp failures under these circumstances, and the Message Waiting Lamp test may be unreliable. Lamps are listed as faulty when they fail the test once in three attempts.

The PBXT Message Waiting Lamp tests can be run under one of the following conditions:

- automatically at a system-specified time, or
- manually at any time (LD 32).

Automatic scheduling should consider low traffic times, when there is still enough ambient light to avoid the dark effect. To prevent the automatic scheduling of LD 32, LD 32 must be excluded from the daily routines (“midnights”) and the system-defined hour must be the default “X” value.

When the hour defined defaults to the “X” value, an error message is output to remind the customer that the PBXT tests are still part of the daily routines, unless LD 32 is removed from the list.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

The Message Waiting Lamp Maintenance feature requires Message Waiting Center (MWC) package 46.

Feature implementation

LD 17 – Define the time for the maintenance tests.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN OVLY	Configuration Record. Gate opener.
OVLY	(NO), YES	Change overlay area options.
- PBXH	hh	PBX Hour for maintenance tests, where: hh = hour for tests, 0-23.
	x	Enter x if no tests are to be performed.

Feature operation

No specific operating procedures are required to use this feature.

Multi-Party Operations

Multi-Party Operations (MPO) introduces a number of capabilities. The capabilities are:

Call Join

Allows Meridian 1 proprietary set users to conference a held party into an active call without having to redial the held party.

Call Join applies to all Meridian 1 proprietary sets, regardless of the Class of Service assigned, that are equipped with a Three-party (AO3) or Six-party (AO6) Conference key and at least one secondary DN or Call Waiting key.

This feature allows a Meridian 1 proprietary set user to conference a party held with an active party on their set, or transfer the active party to the held party by forming a conference then disconnecting.

Call Join is not available at the Attendant Console.

Three-party Service

Allows analog (500/2500 type) set users to toggle between two parties with the option of forming a conference between them, or releasing the active party and reconnecting the held party. Included under the Three-party Service capability are:

- **Three-party Service Timer** – A programmable timer to allow dialing of a Control Digit after a Register Recall.
- **Consultation Call Disconnect Option** – An option to provide alternative treatment to the parties involved in a Consultation call when the Consultation connection is released.

Three-party Service applies to analog (500/2500 type) sets with Three-party Service Allowed (TSA) Class of Service.

During a normal two-party call, the user can place the established call on hold and originate another call. After the second call is established, the user can:

- a Dial the Conference Control Digit (CNFD) to form a three-party conference between the user, held, and active parties, or transfer the active party to the held party by forming a three-party conference then disconnecting.
- b Dial the Toggle Control Digit (TGLD) to exchange the active and held calls.
- c Dial the Disconnect Control Digit (DISD) to release the active call and reconnect the held call.

Programmable Control Digits

The Control Digits may be programmed in LD 15.

Three-party Service time out treatment

A timer is provided on a customer basis to activate an optional time out treatment. The optional time out treatment is to release the active party and connect to the held party if the controlling party of a Consultation call does not dial a Control Digit within the time specified during a Register Recall. The result is the same as if the controlling party had dialed the Control Digit assigned to the DISD function.

The optional time out treatment is selected by the user by responding to the Control Digit Time Out (CDTO) prompt in LD 15 with a value in the range of 2 to 12 seconds.

If the user selects either the default, 14 seconds, or enters 14 seconds, then the operation is as it was prior to the introduction of the Three-party Service time out treatment. That is, if a Control Digit is not entered within 14 seconds, Overflow Tone is provided for 14 seconds, after which the call returns to its previous state; the held party remains on hold and the consulted party is reconnected. If a Register Recall is performed while Overflow Tone is given the call returns to its previous state.

Six-party Conference Enhancement for Analog (500/2500 type) sets

Provides analog (500/2500 type) set users with the ability to Conference up to six parties.

If the MPO package is equipped, then Six-party Conference Enhancement is available to analog (500/2500 type) sets with a combination of the TSA and existing C6A Classes of Service.

This capability is an extension of Three-party Service which allows the user to build a conference of up to six parties by consulting and selectively adding members through the use of Control Digits.

Ignore Switchhook Flash

Provides the ability, on a customer basis, to ignore a Switchhook Flash from analog (500/2500 type) sets. This eliminates the confusion between a flash signal and a dial “1” signal on Dial Impulse analog (500/2500 type) sets, especially when the Dial Impulse analog (500/2500 type) sets have been assigned DTN Class of Service.

If the flash is to be ignored, analog (500/2500 type) sets must have a Ground (Earthing) Button in order to use features which require a Register Recall.

Forced Register Recall

Provides an option, on a customer basis, to force analog (500/2500 type) set users assigned DTN Class of Service to issue a Register Recall before dialing a Control Digit.

If the system does not have the Forced Register Recall option activated, then a Switchhook Flash is interpreted as a dial “1”, default CNFD, causing that Control Digit assignment to be activated.

Manual return after enquiry (Manual Hold)

Provides an option (MHLD) to require analog (500/2500 type) set users to issue a Register Recall to return to a held party following a Consultation dialing time out.

At present, when an analog (500/2500 type) set places a party on hold by using a Register Recall, sets with DIP Class of Service receive 30 seconds, while Digitone (DTN) Class of Service sets receive 14 seconds, of Special Dial Tone followed by 14 seconds of Overflow Tone before the held party is reconnected. During this period the held party is listening to silence or RAN if equipped.

The Manual Return after Enquiry option (MHL D) controls the way the held party is reconnected to the controlling party. If MHL D = NO (the default), the controlling party is automatically reconnected to the held party after the overflow tone timeout. If MHL D = YES, the controlling party receives silence indefinitely after the overflow tone timeout until a second recall is performed to retrieve the held party. There is no automatic reconnection of the held party. The controlling party may manually return to the held party by performing a second Register Recall during Special Dial Tone, Overflow Tone or during the silence period.

Recovery of Mis-operation during Call Transfer

The Recovery of Mis-operation during a Call Transfer feature provides protection against having calls lost due to mis-operation of the Call Transfer feature. Mis-operation occurs whenever the user initiates an unexpected action that would normally cause a call to be lost.

If a station user tries to perform an illegal Call Transfer (e.g., Call Transfer to a vacant number or Call Transfer to a busy extension), the station user receives the appropriate indication on the Consultation connection (e.g., Overflow Tone, Busy Tone, etc.). However, since transfer in the ringing state is allowed, the user may still mis-operate and complete the Call Transfer operation immediately after dialing the desired number.

If a Meridian 1 proprietary set user attempts to complete a Call Transfer by pressing the Call Transfer key, the call is only transferred if the dialed party is in the ringing state or in the Consultation state with the controlling party. In other states the attempt to Call Transfer is ignored.

When an analog (500/2500 type) (500/2500) set initiates a supervised call transfer to a DN in any other state than ringing, the call transfer mis-operation treatment is dependent upon the option chosen for AOCS (all other cases) in the customer data block (LD 15). If any set (either analog or digital) attempts a blind transfer in ringing state, the misoperation treatment is dependent upon the option chosen for Ring No Answer (RGNA) type of mis-operation assigned in LD 15.

A number of options are available, where a call is transferred while the transferred station is ringing. For example if AAR, or DAR is selected, the transferred station will ring for an optional number of ring cycles (RCY2). On the expiration of this timer, the transferring set is rung back for an optional number of ring cycles (RCY1) with an optional recall ringing cadence. If the transferring station does not answer during the optional ringing cycles (RCY1), the transferred call will be forwarded to the attendant or Night Service DN (AAR) if external or disconnected (DAR) if internal.

The Recovery options are specified for both RGNA and AOCS cases in LD 15 when the MPO package is equipped. Separate treatment can be specified for external and internal calls.

Switchhook Contact Bounce

The situation occurs when an analog (500/2500 type) set goes on-hook. Switchhook contact bounce during disconnect may be interpreted by the system as a switchhook flash followed by an on-hook. When this occurs there is an unintended Call Transfer to the attendant or other type of mis-operation.

In order to resolve this problem, with the MPO package equipped, the software is modified to delay recognition of any action for a minimum of 256 milliseconds following receiving a valid switchhook flash from analog (500/2500 type) type sets. During this delay, any signaling received from the parties involved is ignored.

Operating parameters

Tones and cadences are limited by their availability on the equipped Tone and Digit Switch (TDS) card on pre-Meridian 1 systems.

For enhanced functionality of the Multi-Party Operations, the following features should be equipped:

- Automatic Hold for Meridian 1 proprietary sets
- Ground Button and Flash timers, and
- Recall of mis-operation ringing cadence and Control and Special Dial Tones requires the Flexible Tones and Cadences (FTC) feature.

Feature interactions

Access to Paging trunks

Analog (500/2500 type) sets with TSA Class of Service are restricted from initiating a Consultation connection while connected to a paging trunk.

Access to Recorded Dictation trunks

Analog (500/2500 type) sets with TSA Class of Service are restricted from initiating a Consultation connection while connected to a dictation trunk.

Attendant Administration

Attendant Administration allows certain station classes of service to be altered. The operation of Attendant Administration is modified so that if an attendant tries to alter either XFA or XFD Class of Service, then Three-party Service (TSA) Class of Service is disallowed. The TSA and XFA Classes of Service are mutually exclusive. When XFA is assigned, TSA will be disallowed if it was not configured. XFD is not mutually exclusive with TSA, but TSA will not be automatically assigned if the Class of Service is changed to XFD. TSA Class of Service cannot be assigned via Attendant Administration.

This feature can not be used to setup the Three-party Service TSA Class of Service.

Attendant Recall

For analog (500/2500 type) sets with TSA Class of Service, Attendant Recall is accomplished by performing a Register Recall during the two-party connection and dialing the Attendant DN.

Call Forward All Calls

A set which has activated Call Forward All Calls can still initiate calls and become the controlling party of a consultation connection. In this case, if the set mis-operates, then Multi-Party operations while re-ringing the controlling party as a part of mis-operation recovery ignores the Call Forward All Calls indication present on the controlling party.

Call Forward No Answer

For Call Transfer with Ring No Answer (RGNA) if the user has selected an option other than Standard, the optional treatment has priority over the CFNA option selected in the LD 15. If the user has chosen the standard option for RGNA, the call will be treated as a normal CFNA call, and handled according to the options selected for CFNA in LD 15. Once the call is routed to a Night DN during recovery of mis-operation and the Night DN does not answer, the call is treated according to the NFNA and FDN options chosen for the Night DN. The Night DN can use flexible CFNA DN in two levels. MPO mis-operation does not change the operation of the DNFD timer if one has been configured in LD 15.

Call Pickup

Analog (500/2500 type) sets with PUA and TSA Class of Service can pick up a call only if they are not involved in another call. After picking up a call, the user can form a Consultation connection and dial Programmable Control Digits as normal.

Call Transfer

Analog (500/2500 type) telephones with TSA Class of Service perform a supervised Call Transfer by going on-hook after establishing a conference. This differs from operation with XFA Class of service, where transfer can be achieved by going on-hook during Consultation connection. If an analog (500/2500 type) telephone with TSA Class of Service goes on-hook during consultation connection, it is treated as mis-operation of All Other Cases and the recovery actions are done based on the CCDO and AOCS options selected in LD 15. If CDOC = NO, an analog (500/2500 type) telephone can achieve a transfer by going on-hook after establishing a conference.

During the Consultation connection, the non-controlling parties are restricted from using Call Transfer, Conference and Three-party Service features.

Call Waiting

An analog (500/2500 type) set may be assigned both CWA and TSA Classes of Service. The user can establish a Consultation connection by answering Call Waiting during an active established call. If this is done, Control Digit features (CNFD, TGLD, and DISD) are available. Note that Programmable Control Digit TGLD, rather than a switchhook flash, is used to toggle the calls. Operation with XFA Class of Service is unchanged.

The Three-party Service feature changes the operation of Call Waiting for all analog (500/2500 type) telephones as follows (regardless of whether the sets have TSA Class of Service. If an analog (500/2500 type) telephone user activates Waiting during an active call so as to establish a Consultation connection, and if the user goes on-hook during the Consultation connection, the operation is treated as an AOCS mis-operation. This recovery of mis-operation will take place even if the MPO package is not equipped. In this case, the controlling party will be re-rung by the held party regardless of the CCDO and the recovery of mis-operation options.

If an analog (500/2500 type) telephone user attempts to set up a Consultation connection by dialing a busy DN and if the Call Waiting conditions are satisfied, the controlling party will hear ringback tone and the active party will hear Call Waiting tone. If the controlling party goes on-hook before the active party has answered, the held call is disconnected regardless of the MPO options and Call Waiting tone is removed from the active party.

Call Waiting Redirection

Recovery on Misoperation of Call Transfer – Call Transfer with Ring No Answer (RGNA)

With the Call Waiting Redirection feature enabled, if the Controlling Party goes on-hook to complete the call transfer before the Active Party answers the Call Waiting call and before the CFNA timer applied Call Waiting Redirection feature times out, there is no change.

With the Call Waiting Redirection feature enabled, if the CFNA timer applied by the Call Waiting Redirection feature times out before the Call Transfer completes in the Ring No Answer (RGNA) state, CFNA treatment is given by the Call Waiting Redirection feature only if the RGNA option is defined to be Standard (i.e., operation as it was prior to the introduction of the Multi-Party Operations feature).

For Call Transfer with Ring No Answer, if the user has selected an option other than Standard treatment, the RGNA option selected has priority over the CFNA option selected in the Customer Data Block. With the Call Waiting Redirection feature enabled, the non-Standard RGNA option will also be enforced. There are no interactions in the functioning of Multi-Party Operations for the Attendant After Recall, Disconnect After Recall, Attendant After Recall, Overflow, and Disconnect RGNA call treatment options.

As the transferred set tries to re-ring the transferring set, if the transferring set is busy, call redirection will again try Call Forward All Calls, Hunting, and Call Waiting in that order. Call Waiting Redirection will not apply CFNA treatment to the unanswered Call Waiting call as the non-Standard RGNA option selected has priority over the CFNA option selected in the Customer Data Block, and thus have priority over Call Waiting Redirection CFNA treatment.

Recovery on Misoperation of Call Transfer – Misoperation of Call Transfer for All Other Cases

This type of misoperation occurs when the transferring party attempts to complete the transfer in several other non-RGNA scenarios. There is no interaction with these Multi-Party Operations scenarios and the Call Waiting Redirection feature.

Camp-on

Camp-on to a controlling party DN which is involved in a Consultation connection is not permitted. However, Camp-on is allowed at non-controlling parties DN's which are involved in the Consultation connection.

Conference

Current Conference feature for analog (500/2500 type) sets with C6A is not affected by conference with TSA Class of Service.

Directed Call Pickup

Analog (500/2500 type) sets with TSA Class of Service, which are actively involved in Three-party Service, are not allowed to dial the Special Prefix (SPRE) code to pickup another call.

Enhanced Music on Hold

Analog (500/2500 type) sets with TSA Class of Service can receive music when put on hold during Three-party Service.

Enhanced Night Service

Enhanced Night Service allows a mis-operated call involving a Direct Inward Dial (DID) trunk to queue at the Night Service DN.

Last Number Redial

For analog (500/2500 type) sets with TSA Class of Service, the first call of a Consultation connection is stored as the last number. Last Number Redial (LNR) is possible whenever Dial Tone or Special Dial Tone is given.

Night Service

If the system is in Night Service mode, mishandled calls which are routed to the attendant are rerouted to the appropriate Night Service DN. External trunk calls, other than DID, are queued till they are answered.

TIE trunk calls are not queued at the Night Service DN. If the Night Service DN is busy, TIE calls are disconnected.

Off-hook Alarm Security

Three-party Service (TSA) and Alarm Security Allowed (ASCA) Classes of Service are mutually exclusive. A set assigned TSA Class of Service cannot also be assigned ASCA Class of Service, and vice versa; a set assigned ASCA Class of Service cannot also be assigned TSA Class of Service.

Ring Again

When a TSA Class of Service analog (500/2500 type) set with a call on hold encounters Busy Tone, Ring Again is not possible.

Stored Number Redial

For analog (500/2500 type) sets with TSA Class of Service, the current LNR number can be stored only after the Consultation connection is completely released. Save Number Redial (SNR) is possible whenever Dial Tone or Special Dial Tone is given.

Supervised Analog Lines

The call type of the first active call determines whether battery reversal or hook flash supervision applies. Also, supervision signaling is not supported for the second call. A disconnect supervision signal is extended only when the last party disconnects.

Tone to Last Party

When the MPO package is equipped, Tone to Last Party is not provided.

Trunk to Trunk Connection

In a standalone environment, the RGNA prompt in the Customer Data Block will be used when an external trunk is transferred on ringing and the called party does not answer. In a network environment, the RTIM timer value in the Customer Data Block will be used for slow answer recall.

Feature packaging

The basic Multi-Party Operations features are packaged under the MPO package (141).

For enhanced functionality of the Multi-Party Operations feature, the following packages are required: Flexible Tones and Cadences (FTC) package 125.

Feature implementation

To configure Multi-Party Operations the following steps must be followed:

- 1** Configure Multi-Party Operations Parameters in the Customer Data Block (LD 15).
- 2** Configure Recall of mis-operation ringing cadence (PCAD) for analog (500/2500 type) and Meridian 1 Modular (M2000 series) sets and ringing tone (PBCS) for SL-1 and M3000 series sets in Flexible Tones and Cadences (FTC) data block (LD 56), if required.
- 3** Assign Three-party Service (TSA) Class of Service to sets.

Following are the prompts output for the various options in the overlays:

LD 10 – This overlay is modified to allow analog (500/2500 type) sets to be assigned Three party Service Allowed (TSA) Class of Service:

Prompt	Response	Description
REQ	CHG, NEW	Change, or add data.
TYPE	500	Telephone type.
...		
CLS	TSA	Three-party Service Allowed. TSA and ASCA are mutually exclusive (i.e., if TSA is assigned then ASCA will not be allowed, and vice versa). TSA interacts with XFA in the following manner. If the set has XFA (Call Transfer Allowed) Class of Service and the administrator then assigns TSA (Three-party Service Allowed), XFA (Call Transfer Allowed) is automatically set to XFD (Call Transfer Denied) and Three-party Service is then allowed. Conversely if the set has TSA Class of Service assigned and the administrator then assigns XFA, Three-party Service is removed and Call Transfer is allowed. The last Class of Service entered overwrites the previously entered Class of Service of the same category (i.e., if both XFA and TSA are entered in that order, TSA is the Class of Service that is accepted.)
	(MBXD)	Multi-Party Operation (MPO) Blind Transfer Denied. When CLS = MBXD, blind transfers occur with mis-operation treatment.
	MBXA	Multi-Party Operation (MPO) Blind Transfer Allowed. When CLS = MBXA, blind transfers occur without mis-operation treatment. To configure CLS = MBXA, CLS must first be defined as TSA or XFA. Multi-Party Operations (MPO) package 141 must be equipped to enter MBXD or MBXA.
...		

LD 15 – This overlay is modified to incorporate the following options if the MPO package is equipped:

- mandatory recall
- Control Digit Time Out
- treatment of switchhook flash
- programmable Control Digits
- alternative Consultation connection disconnect treatment, and
- mis-operation options.

To implement these options, the following prompts are added to LD 15:

Prompt	Response	Description
REQ	CHG, NEW	Change, or add.
TYPE	CDB MPO	Customer Data Block. Gate opener.
...		
- FMOP	(NO), YES	Flexible Mis-Operation Parameters. NO – (default) Do not change Flexible Mis-Operation Parameters. YES – Change Flexible Mis-Operation Parameters.

- - RGNA	xxx	yyy	Ring No Answer. Enter treatment for Call Transfer Ring No Answer cases, where: xxx is the treatment for internal parties, and yyy is the treatment for external parties.
	(STD)	(STD)	– (default for internal and external parties) Standard treatment
	AAR	AAR	– Attendant After Recall: Recall transferring (controller) set for RCY1 number of ring cycles. If transferring set does not answer within RCY1 ring cycles route call to an attendant.
	ATN	ATN	– Attendant: Route call to an attendant.
	DAR	DAR	– Disconnect After Recall: Recall transferring (controller) set for RCY1 number of ring cycles. If transferring set does not answer within RCY1 ring cycles disconnect call.
	DIS	DIS	– Disconnect: disconnect call.
	OVF	OVF	– Overflow tone: Call is given Overflow Tone.
	xxx	yyy	All Other Cases. Enter treatment for Call Transfer cases other than Ring No Answer: xxx is the treatment for internal parties and yyy is the treatment for external parties.
	AAR	AAR	– Attendant After Recall: Recall transferring (controller) set for RCY1 number of ring cycles. If transferring set does not answer within RCY1 ring cycles route call to an attendant.
	ATN	(ATN)	– (default treatment for external parties) Attendant: Route call to an attendant.
- - AOCS	DAR	DAR	– Disconnect After Recall: Recall transferring (controller) set for RCY1 number of ring cycles. If transferring set does not answer within RCY1 ring cycles disconnect call.
	(DIS)	DIS	– (default treatment for internal parties) Disconnect: disconnect call.
	OVF	OVF	– Overflow tone: Call is given Overflow Tone.
	STD	STD	— Standard treatment
			Note: If Entered in response to AOCS in LD 15, responses will be printed as DIS ATN in LD 21.

-- RCY1	1-(6)-15	Ring Cycles 1. Number of ring cycles (default is 6) a transferring (controlling) station is rung before routing to an attendant or disconnect occurs.
-- RCY2	1-(4)-15	Ring Cycles 2. Number of ring cycles (default is 4) target (transferred to) station is rung before Ring No Answer treatment is applied. Does not apply to AOCs.
-- RALL	(NO), YES	Recall NO – (default) Mandatory recall is not required prior to dialing Control Digits. YES – Mandatory recall is required prior to dialing Control Digits.
-- CDTO	2-(14)	Control Digit Time Out. Range is 2 - 14 seconds and inputs must be a multiple of 2, (i.e., 2, 4, 6, 8, 10, 12, or 14). 2 to 12 activates the optional time out treatment. 14 (default) activates the normal time out treatment.
- IFLS	(NO), YES	Ignore switchhook flash. NO – (default) Allows a switchhook flash, or dial “1”, from an analog (500/2500 type) telephone to be interpreted as a Register Recall. YES – A switchhook flash, or dial “1”, from an analog (500/2500 type) telephone will not be interpreted as a Register Recall. Note: If this option is selected, analog (500/2500 type) telephones should be equipped with a special Ground (Earth) Button.
- MHLD	(NO), YES	Manual Hold. NO – (default) Manual hold is not allowed. YES – Manual hold is allowed.

- PCDS	(NO), YES	Program Control Digits. YES – Allows user to alter default settings of Control Digits. NO – (default) Does not allow the alteration of the existing Control Digit settings. CCDO is the next prompt. Programming of control digits is not required. The default is NO. The defaults values for their respective functions are 1, 2 and 3. If YES then:
- - CNFD	0-(1)-9, *,#	Conference Digit. Prompted if response to PCDS was YES. Enter the Control Digit used to create, or add parties to, a conference. Default is 1.
- - TGLD	0-(2)-9, *,#	Toggle Digit. Prompted if response to PCDS was YES. Enter the Control Digit used to toggle, put active party on hold and connect to held party/parties. Default is 2.
- - DISD	0-(3)-9, *,#	Disconnect Digit. Prompted if response to PCDS was YES. Enter the Control Digit used to disconnect the active party and connect to the held party. Default digit is 3.
- CCDO	(NO), YES	Consultation Connection Disconnect Option. NO – (default) Alternative treatment is not applied to Consultation calls where one of the parties disconnects. YES – Alternative treatment is applied to Consultation calls where one of the parties disconnects.
- AFNO	(NO), YES	(Manual) Forced Camp-On Automatic.
- - ACNS		Attendant Clearing during Night Service. Prompted when the MPO package is equipped and MPOP and FMOP = YES.
	(NO) EXT ALL	No automatic treatment. External calls only. All calls.

LD 20 – This overlay is modified to print the Three-party Service (TSA) Class of Service if the MPO package is equipped.

LD 21 – This overlay is modified to print the Multi-Party Operations settings in the Customer Data Block if the MPO package is equipped.

LD 22 – This overlay is modified to print the Multi-Party Operations package (141) if it is equipped.

LD 56 – This overlay is used to specify all Tones and Cadences. LD 56 is modified to allow specification of Control Dial Tone and recall Tones and Cadences cadences for analog (500/2500 type) and Meridian 1 proprietary sets

Prompt	Response	Description
REQ	CHG, NEW, PRT	Change, add, or print.
TYPE	FTC	Flexible Tones and Cadences data block.
TABLE	0-31	FTC table number.
...		
RING	YES	Change the ringing feature definitions.
...		
- PCAD	xxx	Recall of mis-operation ringing Cadence Enter Master Cadence (MCAD) table number that defines the ringing cadence for recall of mis-operation for analog (500/2500 type) telephones and Meridian 1 Modular sets. Default is value assigned to NCAD.
- PBCS		Recall of mis-operation ringing tone and cadence for Meridian 1 proprietary telephones. Define recall of mis-operation tone and cadence for SL-1 and M1000 sets.
TDSH	i bb cc tt	Tone and Digit Switch Hexadecimal code. Prompted if Tone and Digit Switches (TDS) are configured in LD 17. Defaults are values assigned to NBCS.

XTON XCAD	0-255 0-255	Extended tone code. Extended cadence code. Prompted if system configured with Extended Conference and Tone and Digit Switches (XCT) in LD 17. Defaults are the values assigned to NBCS.
...		
HCCT	YES	Hardware Controlled Cadences and Tones.
...		
- CDT		Control Dial Tone. Define tone and cadence for Control Dial Tone.
TDSH	i bb cc tt	Tone and Digit Switch Hexadecimal code. Prompted if Tone and Digit Switches (TDS) configured in LD 17. Defaults are values assigned to DIAL.
XTON XCAD	0-255 0-255	Extended tone code. Extended cadence code. Prompted if system configured with Extended Conference and Tone and Digit Switches (XCT) in LD 17. Defaults are the values assigned to DIAL.

LD 81 – This overlay is modified to print the stations associated with Three-party Service Allowed (TSA) Class of Service if the MPO package is equipped.

LD 83 – This overlay is modified to include the TSA Class of Service, when sorting TN by Class of Service, if the MPO package is equipped.

Feature operation

Prior to describing the feature operation the following terms are defined to ensure there is no misunderstanding as to their meaning in terms of the Multi-Party Operations feature.

Active party – The party with which the controlling party has a Consultation connection.

Meridian 1 proprietary set – For the purpose of this document, this term is used to refer to standard SL-1 sets and to digital sets (M2000 series and M3000).

Bridged sets – The “Bridging” feature allows the same DN to appear on more than one single line telephone. Bridged sets share the same TN. Up to eight of these sets can be bridged, and a maximum of five of this group can be equipped with ringers. An incoming call rings all sets that have ringers connected and can be answered by any single line telephone user within the bridged group.

Controlling party – The “Controlling Party” is the party which optionally has the “Held Party” in the hold mode and the “Active Party” in the “Consultation Connection”.

Consultation connection – When the controlling party and the active party are in conversation, they are said to be in “Consultation Connection”.

Dial “1” – A pulse recognized as digit 1.

External party – Any CO, DID or TIE trunk (incoming or outgoing), connected to the system is considered an external party, regardless of the way the connection is established.

Flash Timer – The Flash Timer defines the flash period of a valid Switchhook Flash.

Held party – The Held party is the party put on hold (by the Controlling party).

Analog (500/2500 type) set – For the purpose of this document, this term is used to refer to standard analog (500/2500) sets.

Programmable Control Digit – A digit which is dialed by the controlling party, after the Consultation connection is established, to achieve certain functions of Three-party Service for an analog (500/2500 type) set.

Register Recall – A user request for service produced either by Switchhook Flash or by pressing the Ground Button or the Link button.

Switchhook Flash – An on/off-hook pulse which may be either a Register Recall signal or a Digit 1 depending on the conditions during which it occurs and on the flash timing.

Call Join

Call Join is available on any Meridian 1 proprietary set that is equipped with a Three-party (AO3) or Six-party (AO6) Conference key and at least one secondary DN or Call Waiting key.

The following describes the operation of Call Join:

- 1** If the user presses the AO3 or AO6 key during an active call with party A on DNx (DNx is any DN key, including Call Waiting), party A is placed on hold and Special Dial Tone is returned as normal. The user can dial another DN and conference as normal or the user can conference a held party B on DNy (DNy is any DN key, excluding DNx) by continuing as follows:
- 2** The user presses DNy during Special Dial Tone. This causes party B to be moved to the Conference key. DNy key is idled. The Conference key remains active and the user consults with party B.
- 3** When the user has finished consulting with party B, the user presses the Conference key a second time. Party A, party B and the user form a conference (subject to normal restrictions) on DNx. The Conference key is idled. If the user disconnects during the conference, party A is transferred to party B, subject to normal restrictions.

The conference can be enlarged by operating the AO6 key either as described above to add a held party to the conference, or as normal to conference a dialed party.

Note 1: The DNx or secondary DN key can be any Meridian 1 proprietary key capable of holding an independent Directory Number.

Note 2: If the Call Waiting is a Group Call, that call cannot be joined.

Note 3: M2317 and M3000 set soft keys may not display step “If the user presses the AO3 or AO6 key during an active call with party A on DNx (DNx is any DN key, including Call Waiting), party A is placed on hold and Special Dial Tone is returned as normal. The user can dial another DN and conference as normal or the user can conference a held party B on DNy (DNy is any DN key, excluding DNx) by continuing as follows:” on page 190 correctly.

Analog (500/2500 type) set features

Multi-Party Operations introduces Three-party Service Allowed (TSA) Class of Service. Analog (500/2500 type) sets may now be assigned TSA Class of Service and either C6D (Conference 6-party Denied) or C6A (Conference 6-party Allowed) Class of Service. Analog (500/2500 type) set operation is not changed for XFD or XFA Classes of Service.

Three-party Service permits the user to toggle, release or form a three-party conference through the use of Programmable Control Digits.

The combination of TSA and Conference 6-party (C6A) Classes of Service extend the operation of Three-party Service so as to permit the user to enlarge the three-party conference by consulting and selectively adding members through the use of Programmable Control Digits.

The following sections describe Three-party Service (TSA Class of Service).

Establishing a Consultation connection

If the user requests a Register Recall during any established two-party connection, excluding calls to Dictation or Paging trunks or to an attendant, the call is placed on hold and Special Dial Tone is returned. The user can dial a second party for Consultation.

If the controlling party goes on-hook before the second call is established (i.e., when the transferred station is ringing, the call is treated as per Mis-operation of Call Transfer).

When the second call is established, the user becomes the controlling party of the “Consultation” connection. The user can modify the connection through the use of a Programmable Control Digit.

Dialing a Control Digit from a Dial Impulse Analog (500/2500 type) set with DIP or DTN Class of Service

After the consultation connection is established, the controlling party can dial a Programmable Control Digit. Here if RALL = NO, both sets with DIP and DTN Class of Service dialing using dial impulses can dial the programmable control digits without performing the recall. However, for a dial impulse sets with DTN Class of Service the mode of dialing control digits depends upon how the set has setup the consultation call. If the set has used pulse dialing, then the control digits are recognized without recall. If the set has used touchtone dialing, Register Recall is mandatory.

If RALL = YES, a register recall must be performed prior to dialing a control digit, regardless of the set’s Class of Service.

- 1 Dialing the Conference (CNFD) Control Digit produces a three-party conference between the user, held and active parties. During the Conference connection, all parties are restricted from using Call Transfer, Three-party Service and Three-party Conference features (unless the user has C6A Class of Service). If the user goes on-hook during the conference, the remaining parties stay connected as a normal two-party call, subject to normal restrictions.
- 2 Dialing the Toggle Control Digit (TGLD) exchanges active and held parties. During the Consultation connection, the controlling party is restricted from adding other parties to the call, and the non-controlling parties are restricted from using the Call Transfer, Conference and Three-party Service features.
- 3 Dialing the Disconnect Active Control Digit (DISD) releases the active party. The connection to the held party is automatically restored as a normal two-party connection. Either party can initiate another Consultation or Conference connection, subject to normal restrictions.

If the user dials any other digit, the connection to the active party is restored and the held party remains on hold.

Dialing a Control Digit from a Dual-tone Multifrequency Analog (500/2500 type) set with DTN Class of Service

After the Consultation connection is established, the controlling party can dial a Control Digit. If the controlling party is a Dual-tone Multifrequency (DTMF) analog (500/2500 type) set with DTN Class of Service, a Register Recall must precede the Programmable Control Digit.

When the controlling party performs a Register Recall, the speechpath to the active party is removed. If no Digitone Receivers (DTRs) are available, no tone is given and the active party is reconnected. If a DTR is found, a new tone, Control Dial Tone, is given to the controlling party. The cadence, level and frequency of Control Dial Tone are flexible and defined on a per-customer basis.

During Control Dial Tone, the user can dial a Programmable Control Digit.

If a disconnect signal is received from the held party during Control Dial Tone, or if the user does not dial a Programmable Control Digit within 15 seconds, the DTR is removed and Overflow Tone is given for 14 seconds. During this time, the controlling party can restore the connection to the active party by performing a switchhook flash. At the end of Overflow Tone, the active party is reconnected and the held party (if still connected) remains on hold.

If the user performs a switchhook flash during Control Dial Tone, the connection with the active party is restored and the held party remains on hold.

Dialing a Control Digit from a Bridged Set

If Dial Impulse analog (500/2500 type) and DTMF analog (500/2500 type) sets are bridged and assigned DTN Class of Service, the operation depends on whether the Consultation connection was set up using Dial Impulse or DTMF.

If the Consultation connection was set up using Dial Impulse, only Dial Impulse analog (500/2500 type) set users can dial a Programmable Control Digit. If the Consultation connection was set up using DTMF, only DTMF analog (500/2500 type) set users can dial a Programmable Control Digit.

Any dial pulses or Register Recalls are recognized only if all other sets on the bridged line are on-hook. A Register Recall performed by using a Ground Button is also recognized.

Controlling party actions

The following table summarizes the affect on Consultation connections when controlling parties with XFA or TSA Class of Service perform the following actions:

Table 3
Control Digit Functions

Controlling party action	System Response	
	Class of Service	
	XFA	TSA
Dial CNFD	Conference	Conference
Dial TGLD	Conference	Toggle
Dial DISD	Conference	Release Active Party
On-hook	Transfer	Disconnect

Note 1: Dial Impulse analog (500/2500 type) sets with DIP Class of Service are required to issue a Register Recall prior to dialing Control Digits if RALL = YES.

Note 2: If Control Dial Time Out is any value other than the default (14), then the time out results in the same action as if DISD had been dialed.

Note 3: If CCDO is YES, Call Transfer takes place when the controlling party goes on-hook during a consultation connection. This is similar to XFA operation.

Consultation Call Disconnect

Active Party Disconnects

If the disconnect during Consultation connection option chosen is the default (CCDO = NO), after a Consultation connection has been established, and the active party disconnects if:

- a** The active party is internal to the PBX or is external and a disconnect signal is received by the PBX, the held party is reconnected for a normal two-party connection.
- b** The active party is external to the PBX and a disconnect signal is not received by the PBX, then the controlling party is able to release the disconnected trunk by dialing the Disconnect Active (DISD) Programmable Control Digit. The connection to the remaining party then becomes a normal two-party connection.

If the disconnect during Consultation connection option chosen is to give the alternative treatment (CCDO = YES), then if the active party goes on-hook during an enquiry call, the controlling party is given Overflow Tone. On tone time out or Register Recall, the held party is reconnected. If the controlling party goes on-hook during Overflow Tone, the call is treated as in Controlling Party Disconnects.

Held Party Disconnects

If the disconnect during Consultation connection option chosen is the default, after a Consultation connection has been established, and the held party disconnects if:

- a** The held party is internal to the PBX or is external and a disconnect signal is received by the PBX, then the connection with the active party becomes a normal two-party connection.

- b The held party is external to the PBX and a disconnect signal is not received by the PBX, due to the fact that the remaining connection is effectively a two-party connection, the trunk to which the departed party was connected is still on hold. The controlling party can release the disconnected trunk by dialing the Toggle (TGLD) Programmable Control Digit (to hold the active party and activate the connection to the disconnect trunk) and then dialing the Disconnect Active (DISD) Programmable Control Digit (to release the trunk). The connection to the remaining party becomes a normal two-party connection. If the controlling party goes on-hook with the disconnected trunk on hold, the set is rung back.

For case “The held party is internal to the PBX or is external and a disconnect signal is received by the PBX, then the connection with the active party becomes a normal two-party connection.” on page 195, when a Dial Impulse analog (500/2500 type) set with DIP Class of Service user dials a Programmable Control Digit during the active call, Special Dial Tone is returned, indicating that the held party has disconnected. Similarly, when a DTMF analog (500/2500 type) set with DTN Class of Service user performs a switchhook flash during the active call (expecting to receive Control Dial Tone), Special Dial Tone is returned, indicating that the held party has disconnected.

During Special Dial Tone, the controlling party has the option of dialing a DN to set up another Consultation connection, or of resuming the normal two-party connection. The latter is achieved by performing a Register Recall with a duration greater than 150 milliseconds and less than the maximum flash time (a short Register Recall would be mistaken for a digit “1”). A dial “1” from a Dial Impulse analog (500/2500 type) set with DIP Class of Service cannot be used to simulate the flash, as the digit “1” may be the first digit of a DN. The user can do a valid switchhook flash during the middle of dialing a DN and be returned back to the held party. The only restriction is that the switchhook flash must be unambiguous (i.e., the duration of the switchhook flash is greater than the digit “1” duration).

If a 2500 set recalls during a consultation connection and the held party has disconnected with the held party being an internal party or the Meridian 1 Option 11C Compact has received a disconnect signal, special dial tone is returned instead of control dial tone. This is similar to CCDO = NO.

If RALL = YES, the above operation also applies to 500 sets.

With RALL = NO and a 500 set (dial impulse) dials a control digit other than DISD, the set is given overflow tone indicating that the held party has disconnected. If the 500 set dials the DISD control digit, the active party is disconnected and the control party gets overflow tone.

Controlling Party Disconnects

If the disconnect during Consultation connection option chosen is default, then if the controlling party goes on-hook during the Consultation connection, it is considered as a mis-operation of All Other Cases type (AOCS) and the active party is released.

DIS, ATN, AAR, DAR, and OVF options are available for both internal and external parties. If the held party is internal to the PBX, the held party is optionally (DIS) released also. If the held party is external, the controlling set is optionally (AAR) rung back immediately. The external party does not receive Ringback Tone while the controlling set is being rung.

If the controlling party answers, the external party is connected for a normal two-party connection. If the controlling party does not answer within the optional ring cycles (RCY1) for any call (regardless of whether the set has FND or FNA Class of Service), the controlling station is idled while the external party receives Ringback Tone and is optionally routed to the attendant and appears on the CFNA Incoming Call Indicator. Other options are also available.

If the disconnect during Consultation connection option chosen is to give the alternative treatment, then if the controlling party goes on-hook during conversation with the active party, the call is transferred (as current operation with XFA Class of Service on the station).

Six-party Conference

The combination of C6A and TSA Classes of Service, provides an enhancement to the Six-party Conference feature where the user can perform a Register Recall during the Conference connection, dial a consulted party and then dial a Programmable Control Digit to toggle, release, or add the consulted party to the conference. The following describes the sequence of events required of an analog (500/2500 type) set with C6A and TSA Classes of Service to set up a multi-party conference:

- 1 During a normal two-party connection with party A, the user performs a Register Recall and dials party B. The user becomes the controlling party of the Consultation connection.
- 2 The user dials the Conference (CNFD) Programmable Control Digit to form a three-party conference. The Consultation connection becomes a Conference connection.
- 3 The user performs a Register Recall during the Conference connection. The conference is placed on hold (the other parties in the conference remain connected) and Special Dial Tone is returned. The normal timing and mis-operation procedures apply while setting up the Consultation call. The user dials party C. When the Consultation call is established, the user becomes the controlling party of the new Consultation connection.
- 4 The user can dial a Programmable Control Digit which is interpreted as follows:
 - Dialing CNFD causes the consulted party to be added to the conference, as shown in Step [“The user dials the Conference \(CNFD\) Programmable Control Digit to form a three-party conference. The Consultation connection becomes a Conference connection.” on page 198.](#) The Consultation connection becomes a Conference connection.
 - Dialing TGLD causes the consulted party to be placed on hold and the conference to be reconnected. The user can toggle between the conference and the consulted party in this manner.
 - Dialing DISD causes the consulted party to be disconnected. The Conference connection is restored.

The user can repeat Steps 3 and 4 to add parties to the conference. If the user goes on-hook during the Consultation connection, the consulted party is released and the conference stays connected, subject to normal restrictions. Six-party Conference Enhancement for analog (500/2500 type) sets follows the same operation as the existing Six-party Conference feature with respect to mis-operation, access and connection restrictions.

Recovery of mis-operation during Call Transfer

Call Transfer with Ring No Answer (RGNA)

RGNA is applicable only when the user transfers a call while the active party is still in ringing state. All other types of mis-operation are handled as AOCS mis-operations.

Call treatment is then determined by the response to the RGNA prompt in LD 15. Following is the list of the responses to the RGNA prompt and their resulting treatment:

- a** STD (Standard) – The operation as it was prior to the introduction of the MPO feature.
- b** ATN (Attendant) – The transferred party is routed to the attendant if the target (transferred to) station, after having rung for an optional number of ring cycles (RCY2), has not answered the call. The call is rerouted to the attendant as a Call Forward No Answer (CFNA) and is presented on the FNA Incoming Call Indicator (ICI), the call is then treated as a regular CFNA call to the attendant.

If the transferred call was a Consultation connection the transferred party is disconnected and the held party is routed to an attendant and presented as a Recall on the RLL ICI.

- c** DAR (Disconnect After Recall) – The target station rings for an optional number of ring cycles (RCY2). If the call is not answered during this time, the transferred party recalls the transferring (controlling) station. The transferring station rings for an optional number of ring cycles (RCY1), with recall ringing cadence. If the transferring station does not answer during this time, the transferred party is disconnected.

If the transferred call was a Consultation connection then the held party is retrieved and treated as defined by its type (internal or external) and the treatment selected. If the treatment selected is ATN or AAR the held party is routed to an attendant and presented as a Recall on the RLL ICI. If the treatment selected is DAR or DIS, the party is disconnected.

If the transferring station became busy before recall, the transferred party is disconnected immediately.

- d AAR (Attendant After Recall) – This option is similar to the DAR option, except that after the optional number of ringing cycles (RCY1) the transferred party is routed to an attendant as a Call Forward No Answer (CFNA) recall and is presented on the CFN ICI.

If the transferred call was a Consultation connection then the held party is retrieved and treated as defined by its type (internal or external) and the treatment selected. If the treatment selected is ATN or AAR the held party is routed to an attendant and presented as a Recall on the RLL ICI. If the treatment selected is DAR or DIS, the party is disconnected.

If the transferring station became busy before recall, the transferred party is routed to attendant immediately.

- e OVF (Overflow) – Overflow Tone is given to the transferred party after the optional number of ring cycles (RCY2).

If the transferred call was a Consultation connection, the transferred party is disconnected and the held party is given Overflow Tone.

- f DIS (Disconnect) – The transferred party is disconnected after the optional number of ring cycles (RCY2).

If the transferred call was a Consultation connection the transferred party and held party are disconnected.

Note: The ring cycles are counted from the time the transfer has been completed (analog [500/2500 type] set has gone on-hook or Meridian 1 proprietary set has pressed the TRN key for the second time).

This feature applies to both external and internal calls, transferred by station users to another station. The feature does not apply to calls transferred to the attendant, or extended by the attendant.

Mis-operation during Call Transfer – All Other Cases (AOCS)

This section describes mis-operation during Call Transfer for All Other Cases (AOCS) and their default options. Similar options as for Ring No Answer (RGNA) are available for AOCS. The only difference being that the ringing cycle (RCY2) is not valid for AOCS.

Call Transfer to a Busy Station

If an analog (500/2500 type) set user tries to transfer a call to a busy station, Busy Tone is returned during the Consultation connection. If the user then goes on-hook to complete the Transfer operation and if the held party is an external trunk, the external trunk is routed automatically to the attendant as an Intercept Recall. The call is then treated as a regular Intercept Recall call to the attendant.

If the held party is an internal call, it is disconnected.

Call Transfer to Intercept Treatment

While using the Call Transfer feature, the analog (500/2500 type) set user may be intercepted while dialing the third party due to any of the following illegal dialing situations:

- a** Dialing a vacant number.
- b** Dialing a number of a terminal in the maintenance busy or RPE failure state.
- c** Access denied.
- d** Code Restriction or Toll Restriction.
- e** Invalid, restricted, or blocked Network Automatic Route Selection (NARS) or Basic Automatic Route Selection (BARS) calls.

In any of the above cases, while involved in the Consultation connection (according to the selected customer option) the user is:

- given Overflow Tone
- given an intercept recorded announcement, or
- routed to the attendant.

If the user goes on-hook while connected to Overflow Tone or recorded announcement, and if the held party is an external trunk, the external trunk is routed to the attendant as an Intercept Recall. The call is then treated as a regular Intercept Recall to the attendant.

If the MPO package is equipped and the user waits until time out occurs while connected to Overflow Tone or a recorded announcement, the held party is reconnected to the station user, and the call is treated as a regular two-party call again.

If the MPO package is not equipped and the user waits until time out occurs while connected to Overflow Tone or a recorded announcement, both the internal and external calls are disconnected.

Unsuccessful Transfer Connection

While transferring an external trunk to another destination from an analog (500/2500 type) set, if network blocking prevents the completion of the Call Transfer or if the controlling party dials the access code of a busy trunk route, the controlling party receives Overflow Tone during the Consultation connection. If the analog (500/2500 type) set user goes on-hook in spite of the blocking indication, the external trunk is routed to the attendant as an Intercept Recall. At this point, the call is treated as a regular Intercept Recall to the attendant.

Call Transfer on Partial Dialing

If an analog (500/2500 type) set user dials an incomplete number as a third party and attempts to complete the Transfer operation by going on-hook, and if the held party is an external trunk, the external trunk is routed to the attendant as an Intercept Recall. The call is then treated as a regular Intercept Recall to the attendant.

Disconnect Situations during Consultation

If the analog (500/2500 type) set user (the controlling party) disconnects while in the Consultation state, the call is transferred as normal. However, if the new connection is not possible (e.g., due to trunk-to-trunk connection restrictions), and if the held party is external, then this external party is routed to the attendant as an Intercept Recall. The call is then treated as a regular Intercept Recall to the attendant.

Also, if the analog (500/2500 type) set user (the controlling party) disconnects while connected to Dial Tone, and if the held party is external, then this external party is routed to the attendant as an Intercept Recall. The call is then treated as a regular Intercept Recall to the attendant.

If one of the other parties in the call disconnects, the following occurs:

- If the held party disconnects, the controlling party receives no indication until the hook switch is flashed to establish a conference. At that time Dial Tone is returned instead of all three parties creating a conference. The call is treated as a normal two-party call from the time the held party disconnects.
- While an external party is in the Consultation hold state, if the party being consulted disconnects followed by the controlling party disconnect, then the held party is routed automatically to the attendant as an Intercept Recall. The call is then treated as a regular Intercept Recall to the attendant.

Mis-operation during Control Dial Tone

The treatment given depends upon the type of active party. If the active party is internal, the internal option is also applied to the held party (e.g., if for internal calls AOCS is DIS ATTN, the held call even though external will also be disconnected). The mis-operation option selected in this case is solely dependent upon the type of active call (internal or external), and the related mis-operation option. This option is consistently applied to the held, as well as the active party.

With the Consultation Connection Disconnect Option (CCDO) in LD 15 not selected, if an analog (500/2500 type) set user (the controlling party) disconnects while receiving Control Dial Tone in the Consultation state, internal held parties are disconnected while external parties are routed to the attendant as Intercept Recalls. The external calls are then treated as a regular Intercept Recalls to the attendant.

With CCDO selected, if an analog (500/2500 type) set user (the controlling party) disconnects while receiving Control Dial Tone in the Consultation state the held parties are given treatment as defined by the responses to the All Other Cases (AOCS) prompt in LD 15.

Mis-operation Treatment Options

A number of mis-operation treatment options are made available both for internal and external calls. These treatment options are available for Ring No Answer (RGNA) and for All Other Cases (AOCS). The following are the cases for AOCS:

- Call Transfer to Intercept Treatment for:
 - Call Transfer to busy station
 - Dialing a vacant number
 - Terminal is in maintenance busy
 - RPE failure state
 - Access denial
 - Code or Toll restricted set
 - Network blocking
 - Invalid, restricted and blocked Network Automatic Route Selection (NARS)/Basic Automatic Route Selection (BARS) calls
 - Partial dialing
 - Trunk-to-trunk connection restrictions
 - Inter-tenant blocking
 - During reception of announcements, and
 - During reception of tones (Control, Special),
- Call Transfer while Dial Tone is being heard
- Call Transfer before completing dialing
- Call Transfer during outpulsing of digits on a trunk, and
- Controlling party goes on-hook during Consultation connection (CCDO = NO).

Recall of mis-operation Ringing Cadence Option

When a transferring set is rung back after Call Transfer mis-operation, then Recall of mis-operation ringing cadence is optionally given to this set. Two optional Recall of mis-operation cadences, one for analog (500/2500 type) and Meridian 1 Modular sets (PCAD) and another for SL-1 and M1000 series sets (PBCS), are optionally selectable (in LD 56). The default Recall of mis-operation ringing cadence is the current Ringing Tone or cadence.

Multiple Appearance Directory Number Redirection Prime

Multiple Appearance Directory Number (DN) Redirection Prime (MARP) standardizes call redirection on Multiple Appearance DN (MADNs) by using a service changeable Multiple Appearance DN Redirection Prime Terminal Number (MARP TN).

Each defined Single or Multiple Appearance DN has only one associated MARP TN. When a call redirection feature activated against a DN needs Terminal Number (TN) specific information, the MARP TN is used to determine feature operation. Call redirection always refers to the MARP TN.

MARP provides consistent operation for the following call redirection features:

- Call Forward All Calls
- Call Forward Busy
- Call Forward No Answer, and
- Hunting.

Operating parameters

Short Hunt takes precedence over MARP TN directions.

The MARP TN is defined in LD 10 or LD 11. When activated, only the MARP TN is used to determine call redirection.

If MARP is not activated, the overlays listed have this message printed: “MARP NOT ACTIVATED.” The message appears only once, when the overlay is loaded. When MARP is active, no message appears. The overlays affected are: LDs 10, 11, 20, 22, 25, 80, 81, 82, and 83.

When MARP is activated in Service Change (MARP = YES), calls are immediately directed according to the MARP TN. There is no need to SYSLOAD.

Every Single or Multiple Appearance DN has a MARP TN. MARP TNs are also defined for Data DNs, optional incoming two-way Hot Line DNs, and ringing and nonringing Private Line DNs. Automatic Call Distribution (ACD) DNs are not assigned MARP TNs.

New systems are installed with MARP activated. MARP TNs are assigned to all Single and Multiple Appearance DNs. Call redirection follows the MARP TN assignments.

MARP TNs assigned at Service Change

Each DN must have an associated MARP TN. After a Service Change or a telephone relocation, the system assigns a MARP TN to the DN in the following situations:

- The MARP TN containing the DN is removed.
- The DN appearance on its MARP TN is changed to another DN.
- The DN appearance on its MARP TN is no longer the redirection prime.

The “TN list” refers to the list of TNs that appears when you print the DN block in LD 20 or LD 22 (TYPE = DNB). To determine the order in which your TNs appear, print out the DN block.

When assigning MARP TNs during Service Change, the system conducts a search beginning at the top of the TN list for the first appearance of the DN as the Prime DN. The MARP TN is assigned based on the following:

- 1** The first TN found with a primary appearance of the DN is assigned as the MARP TN.
- 2** If no primary appearance of the DN is found, the first TN encountered with a secondary appearance of the DN is assigned as the MARP TN.

Feature interactions

Attendant Administration

MARP TNs cannot be added, moved, or deleted with Attendant Administration. The DN information that displays on the console includes the MARP designation if applicable.

Attendant administration activities, like changing key assignments or DN appearance, may change MARP TN assignments. If so, CSC102 appears on the teletype (TTY) indicating a new default MARP TN, as follows:

```
CSC102 DN nnnn NEW MARP l s c u
```

where

nnnn = the DN associated with the MARP TN

l s c u = the new MARP TN assigned to DN nnnn

Attendant and Network-Wide Remote Call Forward (RCFW)

The RCFW feature operation applies only to one prime DN of a Multiple Appearance DN. If multiple stations are configured with the same prime DN, the set-based network RCFW feature operation is the same as the standalone RCFW feature operation.

If multiple stations are assigned the same prime DN and station control password (SCPW), the RCFW operation applies to the station to which the MARP TN is assigned. If none of the stations is configured as the MARP TN for that prime DN, the Remote Call Forward Activate and Deactivate Flexible Feature Codes (FFCs) apply to all stations matching the DN and SCPW. Remote Call Forward Verify applies to the station according to MADN call presentation priority, placing the station with the last service change at the end of the list.

The attendant-based RCFW operation applies to the station with the MARP TN of the DN entered.

Attendant Break-In

The attendant may get a busy tone if all the telephones with the required DN are busy. Attendant Break-In permits the attendant to break in to the connection with the least restricted TN. Where more than one TN exists that meets this criterion, Break-In chooses the one at the bottom of the DN block.

Automatic Set Relocation and Modular Telephone Relocation

When Automatic Set Relocation is used to move a telephone, the telephone's MARP designations are maintained. During the relocation, a temporary MARP TN is assigned. The original MARP TN is restored when the telephone relocates.

When a telephone leaves the system due to set relocation, the following Customer Service Change (CSC) message appears:

CSC010 x y

where

x = old TN (l s c u) for the telephone

y = ID code entered

The following Service Change (SCH) message appears for any MARP TN reassignment:

SCH5524 DN nnnn NEW MARP l s c u

where

nnnn = the DN associated with the MARP TN

l s c u = the new default MARP for DN nnnn

The History File can be configured to store these messages until a printout is requested.

When a telephone reenters the system, the following message appears:

CSC011 x y

where

x = old TN (l s c u) for the telephone

y = new TN (l s c u) for the telephone

The following message appears again for each changed TN:

SCH5524 DN nnnn NEW MARP l s c u

where

nnnn = the DN associated with the MARP TN

l s c u = the new MARP TN assigned to DN nnnn

Automatic Call Distribution(ACD)

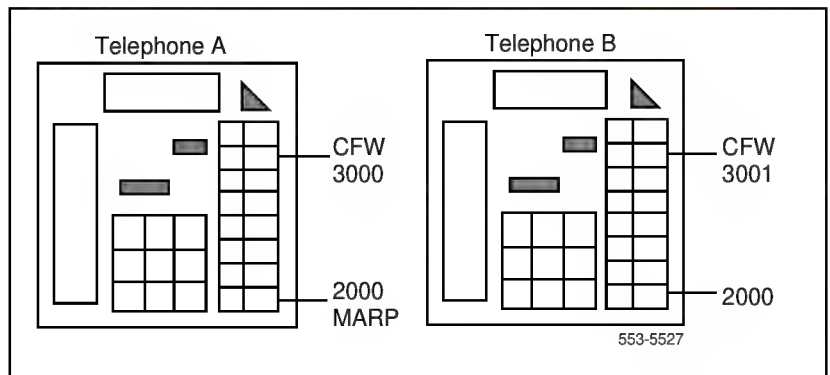
ACD DN's are not assigned MARP TN's. Agent Individual DN's (IDN's) are assigned MARP TN's.

Call Forward All Calls

If CFW is active for a DN, incoming calls are forwarded if a TN is found that has CFW enabled and is a single appearance or a prime multiple appearance of that DN (according to existing operation). The MARP TN is always checked first to meet these criteria. When the requirements are met, the system uses the information associated with the MARP TN to redirect the call.

If the MARP TN is not a prime appearance but does have CFW enabled, a search is made for a telephone with a prime appearance of that DN with CFW enabled. When a TN is found, the call is redirected according to the MARP TN's parameters. If the MARP TN is not a prime appearance and does not have CFW enabled, the system searches for a prime appearance with CFW enabled. The incoming call is forwarded according to the other telephone's instructions (not the MARP TN's), as shown in [Figure 6](#).

Figure 6
CFW and MARP



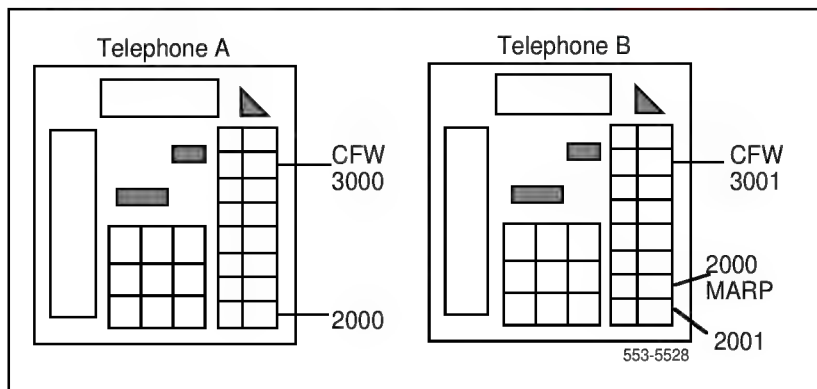
CFW DN on Telephone A is DN 3000. CFW DN on Telephone B is DN 3001.

- If only Telephone A has CFW active, calls to DN 2000 are forwarded to DN 3000.

- If only Telephone B has CFW active, calls to DN 2000 are forwarded to DN 3001.
- If both Telephone A and B have CFW enabled, calls to DN 2000 are forwarded to DN 3000 because Telephone A is the MARP TN.

At times, even though the MARP TN is actually a secondary DN appearance, it can control where a call is redirected. Due to potential confusion, it is recommended that a secondary appearance not be defined as the MARP TN when a prime appearance is available. Refer to [Figure 7](#).

Figure 7
MARP control



CFW DN on Telephone A is DN 3000. CFW DN on Telephone B is DN 3001.

- If both Telephone A and Telephone B have CFW active, all calls to DN 2000 go to DN 3001 because Telephone B is the MARP TN.
- If only Telephone A has CFW active, all calls to DN 2000 go to DN 3000.
- If only Telephone B has CFW active, no calls to DN 2000 are forwarded.

If all DN appearances are secondary, no calls are forwarded.

Call Forward No Answer

The MARP TN always controls the call redirection for Call Forward No Answer.

Call Redirection by Time of Day (CRTOD)

When CRTOD and Multiple Appearance DN Redirection Prime (MARF) are activated, Call Forward or Hunt are dependent on the time of day and follows the MARF feature for Call Forward No Answer or Hunt treatment.

Call Waiting Redirection

If the MARF feature is activated, the CFNA treatment given by Call Waiting Redirection for an unanswered Call Waiting call follows the MARF feature for CFNA treatment of calls to an idle DN.

Electronic Lock Network Wide/Electronic Lock on Private Lines

The same locked or unlocked state applies to all Terminal Numbers with the same primary DN and the same SCPW. Terminal Numbers with the same DN, but not having the same SCPW, cannot be locked or unlocked.

Hunting

The MARF TN always controls the call redirection for Hunting. Short Hunting takes precedence over Hunting and MARF. The MARF TN is referred to until Short Hunting is encountered. Short Hunting is in control until it expires. When short hunting expires, the MARF TN for the first DN in the Short Hunt sequence takes control.

Phantom Terminal Numbers (TNs)

Multiple appearance and MARF cannot be enabled on a phantom TN.

Feature packaging

Multiple Appearance Directory Number Redirection Prime is included in the base system software.

Feature implementation

If MARF is not activated, the overlays listed have this message printed: "MARF NOT ACTIVATED." The message appears only once, at the very beginning of the overlay. When MARF is active, no message appears. The overlays are: LDs 10, 11, 20, 22, 25, 80, 81, 82, and 83.

When changing or adding a new Single Appearance DN to the system, the MARF TN is automatically assigned. The system indicates this TN is the MARF for the new DN with a MARF message.

When adding or changing a Multiple Appearance DN, the system indicates which TN is the current MARP TN. You can reassign the MARP TN if required.

SCH5524 appears at the end of the Service Change session, when the MARP TN has been changed.

LD 10 – Add an analog (500/2500 type) telephone with a Single Appearance DN.

Prompt	Response	Description
REQ	NEW	Add new data to the system.
TYPE	500	500/2500 telephone.
TN	c u	Terminal Number.
DN	xxx...x	Directory Number.
- MARP		MARP prints on the next line indicating this TN is the MARP for DN xxxx.

LD 10 – Add an analog (500/2500 type) telephone with a Multiple Appearance DN.

Prompt	Response	Description
REQ	NEW	Add new data to the system.
TYPE	500	500/2500 telephone.
TN	c u	Terminal Number.
DN	xxx...x	Directory Number.
- MARP ON TN	l s c u	<i>MARP ON TN l s c u</i> prints on the next line indicating TN l s c u is the current MARP.

- MARP SCH5524 DN nnnn NEW MARP	(NO), YES I s c u	(Do not) set the MARP to this new TN. This message indicates the MARP for the old DN nnnn is changed. The new MARP is TN I s c u.
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LD 10 – Changing an analog (500/2500 type) telephone with a Multiple Appearance DN.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	500/2500 telephone.
TN	c u	Terminal Number.
DN	xxx...x	Directory Number.
- MARP ON TN	c u	This message indicates the current MARP is TN I s c u.
- MARP SCH5524 DN nnnn NEW MARP	(NO), YES c u	(Do not) set the MARP to this TN. The message indicates the MARP for the old DN nnnn is changed. The new MARP is TN I s c u.

LD 11 – Add a telephone with a Single Appearance DN.

Prompt	Response	Description
REQ	NEW	Add new data to the system.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.

KEY	xx aaa yyyy	xx is the key number aaa is the DN type: MCN (multi-call nonring) MCR (multi-call ring) SCN (single-call nonring), or SCR (single-call ring). yyyy is the DN.
- MARP		<i>MARP</i> prints on the next line indicating this TN is the MARP for DN yyyy.
KEY		Reprompts until <CR> is entered.

LD 11 – Add a telephone with a Multiple Appearance DN.

Prompt	Response	Description
REQ	NEW	Add new data to the system.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx aaa yyyy	xx is the key number. aaa is the DN type: MCN (multi-call nonring) MCR (multi-call ring) SCN (single-call nonring), or SCR (single-call ring). yyyy is an existing DN.
- MARP ON TN	l s c u	<i>MARP ON TN l s c u</i> prints on the next line indicating TN l s c u is the current MARP.
- MARP	(NO), YES	(Do not) set the MARP to this new TN.
KEY		Reprompts until <CR> is entered.
SCH5524 DN nnnn NEW MARP	l s c u	This message indicates the MARP for the old DN nnnn is changed. The new MARP is TN l s c u.

LD 11 – Changing a telephone with a Multiple Appearance DN.

Prompt	Response	Description
REQ	CHG	Modify existing data
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx aaa yyyy	xx is the key number. aaa is the DN type: MCN (multi-call nonring) MCR (multi-call ring) SCN (single-call nonring), or SCR (single-call ring). yyyy is the DN.
- MARP ON TN	c u	<i>MARP ON TN c u</i> prints on the next line indicating TN c u is the current MARP.
- MARP	(NO), YES	(Do not) set the MARP to the working TN.
KEY		Reprompts until <CR> is entered.
SCH5524 DN nnnn NEW MARP	c u	This message indicates the MARP for the old DN nnnn is changed. The new MARP is TN c u.

LD 10/LD 11 – Removing a MARP TN.

Prompt	Response	Description
REQ	OUT	Remove data from the system.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
SCH5524 DN nnnn NEW MARF	c u	This message indicates the MARP for the old DN nnnn is changed. The new MARP is TN c u.

LD 17 – Activating or deactivating MARP.

Prompt	Response	Description
REQ	CHG	Change data.
TYPE	CFN PARM	Configuration record. Gate opener.
PARM	YES	Change system parameters.
- MARP	YES, NO	Activate or deactivate MARP. There is no default. <CR> retains the previous system data.

LD 20 or LD 22 – Print MARP information.

Prompt	Response	Description
REQ	PRT	Print information.
TYPE	TNB	Terminal Number data block.
	(DNB, SL1)	(Can also print out DN data block or telephone type.)

The printout will look like the following.

— For the DN data block:

DN 2000

TYPE SL1

TN 018 0 02 00 KEY 00 MARP DES NO DES NO DATE

TN 018 0 02 01 KEY 01 DES NO DES NO DATE

— For a telephone data block:

DES NO DES

TN 001 0 0 00

TYPE SL1

KEY 00 MCR 2000 MARP

01 MRK

Feature operation

No specific operating procedures are required to use this feature.

Multiple Console Operation

The Meridian 1 Option 11C Compact permits each customer to have up to 63 Attendant Consoles. Incoming calls are routed in a circular fashion to the first idle attendant. If all consoles are busy, calls are held in the attendant queue and are presented to the first idle attendant. Each console is identified by a customer-defined, two-digit Attendant Console number (01 to 63).

The assignment of Incoming Call Indicators (ICIs) and Trunk Group Busy (TGB) key/lamp pairs is identical for all Attendant Consoles in the customer group, except when Console Presentation Group Level Services, a multi-tenant feature, is configured. The flexible features key/lamp strip can be assigned on a per console basis.

The features that can be assigned to the flexible features strip include the following:

- Attendant Administration
- Autodial
- Automatic Wake Up
- Barge-In
- Busy Verify
- Call Park
- Calling Party Number
- Charge Account
- Controlled Class of Service, Enhanced
- Display Calls Waiting
- Display Date

- Display/Change Date
- Display Destination
- Display Source
- Display Time
- Display/Change Time
- Do Not Disturb (Individual)
- Do Not Disturb (Group)
- End-to-End Signaling
- Malicious Call Trace
- Message Cancellation
- Message Indication
- Mini-CDR Low Tape Alarm (the SL-1M only)
- Paging
- Routing Control
- Speed Call Controller
- System Speed Call Controller, and
- Stored Number Redial.

Operating parameters

63 consoles can be defined per customer.

Feature interactions

Departmental Listed Directory Number (DLDN)

DLDN supports the assignment of 63 consoles per Departmental LDN.

Multi-Tenant Services

Up to 63 consoles can be defined in a single Console Presentation Group (CPG).

Feature packaging

Multiple Console Operation is included in basic X27 system software.

Feature implementation

The following overlays have been modified to allow input of 63 consoles:

- Attendant Console LD 12
- Customer Data Block LD 15
- Tenant-to-Tenant Access LD 93

Feature operation

No specific operating procedures are required to use this feature.

Multiple Queue Assignment

The Multiple Queue Assignment (MQA) feature enhances the capabilities of Automatic Call Distribution (ACD). This feature allows agents to service multiple queues simultaneously.

MQA will allow Call Center customers to achieve a high level of control over the manner in which agents are assigned to calls in queues (ACD-DNs). Thus, Call Center managers will be able to better direct calls to agents whose skills best meet the needs of the caller. This feature will also allow agents to login to up to five queues, select their priorities within these queues, and choose their supervisor's position ID. Agents will also be able to login at any ACD set and have their non-ACD calls forwarded to the set which they are logged into.

Refer to *ACD Description, Operations and Tests* (553-2671-110) for further details.

Multi-User Login

Meridian 1 Multi-User Login (MULTI_USER) package 242 enables up to three users to log in, load, and execute overlays simultaneously. These three users are in addition to an Attendant Console or maintenance terminal. The Multi-User Login capability increases the efficiency of technicians by enabling them to perform tasks in parallel.

For a complete description of Multi-User Login, please refer to *system management applications* (553-3001-301).

Music

The Music Package supports Music on Hold and Automatic Call Distribution (ACD) Music on Delay. One or more music sources can be connected to one or more music trunks on peripheral equipment. Each music trunk is assigned to a music route and to a conference loop. Incoming callers are bridged into a listen-only conference and provided with music when on hold or when waiting for an ACD call to be answered.

Music on Hold

This feature allows incoming calls over a CO, FX, WATS, DID, or TIE trunk to receive music if placed on hold. Music is provided only if the trunk route is defined to receive music. The trunks selected to receive music are provided with a listen-only path to a music conference connection.

Music is provided by a dedicated music trunk by means of the conference circuit.

To minimize blocking of the music conference, at least two conference loops should be assigned in each network group requiring music. The loop with the higher number should not be assigned to music trunks.

Operating parameters

Music is provided by a Recorded Announcement (RAN) or universal trunk circuit card.

Only trunks assigned to a route specified by service change receive Music on Hold.

When a call is held, the system looks for a network path to provide the music. If one is not found, no music is heard.

When a Universal trunk card is used, Music and RAN trunks can be assigned to the same card.

Connections blocked once are not automatically attempted again.

Simple source-only connections on the Attendant Console receive music; all others do not.

Main Release Link Trunks do not receive music.

Calls to special trunks (such as Paging or Dictation) do not receive music if placed on hold.

The music trunk Terminal Number (TN) must be within the same network group as the conference circuit to which it is assigned.

One music trunk per customer must be located in each network group requiring music.

Music is not supplied across groups (if group 4 does not have a music trunk and groups 0-3 have music trunks, an incoming call to group 4 placed on hold will not receive music).

A single conference loop with one music trunk assigned can support up to 29 simultaneous listeners.

If more than one music trunk is assigned to one conference loop, they must use different routes. The total number of possible listeners is 30 minus the number of assigned trunks. Additional music trunks and conference loops can be configured if required.

The music source must be compatible with the music trunk circuit pack.

Feature interactions

Attendant Trunk Group Busy Indication

A music route that appears on a Trunk Group Busy key on the Attendant Console cannot be controlled by activation of the Trunk Group Busy key. In addition, the associated lamp will not reflect the status of the music trunks.

Call Park

When a call is parked, music is not heard. When a trunk is parked, music plays if music is enabled for the route.

Conference

With basic Music on Hold, when a call is placed on consultation hold while a Conference is being established, music does not play. Enhanced Music (EMUS) package 119 is required for music on consultation hold. For more information on the “Music Enhanced” module refer to [“Music, Enhanced” on page 235](#) of this document.

Recovery on Misoperation of Attendant Console

Music on Hold, if allowed, is applied to calls put on hold due to AUTOHOLD on the LOOP key option.

Feature packaging

Music (MUS) package 44 requires:

— Recorded Announcement (RAN) package 7.

Music on Delay

Music on Delay presents a listen-only path to a music source for calls waiting in ACD queues. Music on Delay sources are identified separately for each Automatic Call Distribution Directory Number (ACD DN). Complete details are described in *Automatic Call Distribution feature description* (553-2671-110).

Feature implementation

LD 17 – Add or change conference loops for Music on Hold.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN CEQU	Configuration Record. Gate opener.
CEQU	(NO), YES	Change to CE parameters.

- XCT	0-158	Loop number for NT8D17 Conference/TDS/MFS card. Enter an even network loop number for TDS/MFS functions. The conference function is automatically assigned the next higher (odd) loop number.
- CONF	0-158	Loop number for conference card.

LD 16 – Add or change a music route.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
TKTP	MUS	Music route.
ICOG	OGT	Outgoing route only.
ACOD	xxxx	Trunk route access code.
Note: All other prompts can be set to default values.		

LD 14 – Add or change a music trunk.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	MUS	Music trunk.
TN	c u	Terminal Number.
CUST	0	Customer number.
RTMB	xxx yyy	Route number and member number.
CFLP	0-158	Conference loop assigned to music in LD 17.

LD 16 – Enable/disable Music on Hold for trunk routes.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route data block.
CUST	0	Customer number.
ROUT	0-511	Route number.
TKTP	COT, DID, FEX, TIE, WAT	Route type.
MUS	(NO), YES	Music on Hold (is not) or is to be provided for this trunk route.
MRT	xxx	Music route number.

LD 23 – Enable/disable Music for an Automatic Call Distribution Directory Number.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	ACD	Update the ACD data block.
CUST	0	Customer number.
ACDN	xxx...x	ACD DN.
MURT	X, 0-511	Music route number. X = remove route.

Feature operation

No specific operating procedures are required to use this feature.

Music, Enhanced

Enhanced Music (EMUS) provides music for internal and external calls. Music is provided when telephones are placed on Hold, Consultation Hold, and Camp-On and when calls at the Attendant Console are split using the “Exclude Source/Destination” keys.

Enhanced Music (EMUS) provides music in situations described in [Table 4](#).

Table 4
Features vs. no Music, Music, and Enhanced Music

	Without Music		Music		Enhanced Music	
	Sets	Trunks	Sets	Trunks	Sets	Trunks
ROA Waiting	No	No	Yes	Yes	Yes	Yes
Call Park	No	No	Yes	Yes	Yes	Yes
ACD Music	No	No	Yes	Yes	Yes	Yes
Hold Key	No	No	No	Yes	Yes	Yes
Permanent Hold	No	No	No	Yes	Yes	Yes
Consultation Hold	No	No	No	No	Yes	Yes
Splitting	No	No	No	Yes	Yes	Yes
Camp-On	No	No	N/A	Yes	N/A	Yes

Operating parameters

The requirements for Enhanced Music on Hold are the same as for Music on Hold. For more information on this refer to the [“Music” on page 229](#) module in this document.

Trunks receive Music on a route basis. Telephones receive Music on a customer basis.

Feature interactions

Enhanced Music on Hold has the same feature interactions as Music on Hold. In addition, it has interactions with the following features:

Busy Verify

When the attendant attempts to Busy Verify a telephone receiving Music, the Music is removed. When the attendant releases, Music is returned.

Call Transfer

The held party receives Music when the other party presses the Call Transfer key. The Music connection remains until the Call Transfer key or the DN key is pressed, ending the Consultation Hold state.

Charge Account and Calling Party

The Charge Account (CHG) and Calling Party (CPN) keys place the far end party on Hold while a charge number is entered. The held party receives Music during this period.

Conference

The held party receives Music when the Conference key is pressed, while the conference is being established, and whenever the conference is reduced to two parties with one party on Hold. Once the conference is established, Music is no longer provided.

A Six-party Conference operates the same as a Three-party Conference.

Deluxe Hold

A caller placed on Hold by a member of a multiple appearance group receives Music regardless of whether the call is on Hold or Exclusive Hold.

Privacy Release

When using Privacy Release to add one or more members to a call already receiving Music, the Music is removed.

M3000 Telephones

The Switch Parties key allows Music to the party on Hold and ends Music to the other party each time it is pressed.

Feature packaging

Enhanced Music (EMUS) package 119 requires:

- Music (MUS) package 44, and
- Recorded Announcement (RAN) package 7.

Feature implementation

LD 17 – Add or change Conference loops for Music on Hold.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN CEQU	Configuration Record. Gate opener.
CEQU	(NO), YES	Change to CE parameters.
- XCT	0-158	Loop number for NT8D17 Conference/TDS/MFS card. Enter an even network loop number for TDS/MFS functions. The conference function is automatically assigned the next higher (odd) loop number.
- CONF	0-158	Loop number for conference card (must be an even numbered loop).

LD 15 – Enable/disable Music for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- MUS	(NO), YES	Enhanced music for telephones.
- MUSR	0-511	Music route for telephones.

LD 16 – Add or change a Music route.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
TKTP	MUS	Music route.
ICOG	OGT	Outgoing route only.
ACOD	xxxx	Trunk route access code.
Note: All other prompts can be set to default values.		

LD 14 – Add or change a Music trunk. At least one Music trunk per network group is required for each customer requiring Music.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	MUS	Music trunk.
TN	c u	Terminal Number.
RTMB	xxx yyy	Route and member number.
CFLP	0-158	Conference loop assigned to music in LD 17.

LD 16 – Enable/disable Music on Hold for trunk routes.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	RDB	Route data block.
CUST	0	Customer number.
TKTP	COT, DID, FEX, TIE, WAT	Trunk type.
MUS	(NO), YES	Music on Hold (is not) is to be provided for this trunk route.
MRT	0-511	Music route number.

Feature operation

No specific operating procedures are required to use this feature.

New Flexible Code Restriction

New Flexible Code Restriction (NFCR) controls the access of Toll Denied terminals to outgoing trunk routes and digits dialed on them. Calls are allowed or denied based on the specific digit sequence dialed.

Toll Denied (TLD, CTD, CUN) telephones and trunks are assigned a Network Class of Service (NCOS) and are allowed or denied calling privileges according to the Facility Restriction Level (FRL) assigned to their NCOS. If, however, a user who has CTD or CUN Class of Service has dialed the call using a Basic Alternate Route Selection (BARS), Network Alternate Route Selection (NARS), Coordinated Dialing Plan (CDP), or Automatic Number Identification (ANI) access code, the NFCR restrictions do not apply. For these users, NFCR applies only on direct trunk access code type calls. TLD users are always affected no matter how their call is dialed.

When a user accesses an outgoing route, the user's assigned FRL determines which digits are allowed or denied on that route. Up to eight FRL codes can be assigned per trunk route. When a user dials denied digits following direct trunk access codes, intercept treatment is given. NFCR can be programmed to deny certain outpulsed digits, not dialed digits, when Electronic Switched Network (ESN) calls are to be denied for TLD users.

Using "code restriction trees," NFCR can be programmed to analyze each digit individually and allow or deny a call on the basis of any digit or digit sequence dialed. There can be up to 255 code restriction trees per customer group. Each trunk route can access up to eight trees, and each tree can be used by more than one route. The code restriction tree corresponding to the terminal user's FRL is defined by the trunk route. Digits can also be bypassed and allowed to process with no restriction; however, certain digits that follow these might be restricted.

NFCR can be programmed to count the number of digits dialed and deny any call exceeding the specified number of digits. If a user dials an octothorpe (#) before NFCR has finished digit counting, the call is disallowed and intercept treatment is given. This prevents digits from 2500 sets or Dual-tone Multifrequency (DTMF) trunks from being outpulsed before being counted or analyzed by code restriction. Up to 50 digits can be analyzed.

Operating parameters

New Flexible Code Restriction (NFCR) can be programmed to count the number of digits dialed and deny any call exceeding the specified number of digits.

Only the digits zero (0) through nine (9) are considered. If a user dials an asterisk (*) it is not counted as a dialed digit. If the user dials an octothorpe (#) before NFCR has finished digit counting, the call is disallowed and the appropriate intercept treatment is provided. This prevents digits from 2500-type telephones or Dual-tone Multifrequency (DTMF) trunks from being outpulsed before being counted or analyzed by code restriction.

As many as 255 code restriction trees are available per customer. Eight code restriction trees can be referenced by each trunk route.

Up to 50 digits can be analyzed by NFCR.

When Code Restriction (LD 19) and NFCR (LD 49) are both enabled for the same customer, NFCR takes precedence. Any parameters required for Code Restriction are ignored.

Feature interactions

Attendant Blocking of Directory Number

When the attendant has a blocked DN on the source side and dials on the destination side, any New Flexible Code Restriction active for the set of the blocked DN will be overridden. This is the same as if the attendant had a normal established call to the DN on the source side and dials the destination side.

Authorization Code

If the Class of Service of the authorization code is Toll Denied (TLD), NFCR is applied. If the Class of Service is Conditionally Unrestricted (CUN) or Conditionally Toll Denied (CTD) and the call is not routed through BARS/NARS, CDP or ANI, NFCR is applied.

Automatic Number Identification (ANI)

Calls from Toll Denied (TLD) stations routed by ANI are subject to NFCR. Calls placed by Conditionally Toll Denied (CTD) and Conditionally Unrestricted (CUN) Class of Service stations subject to ANI are treated as unrestricted calls.

Automatic Redial (ARDL)

ARDL calls must pass New Flexible Code Restriction (NFCR) checks. If the redialed number is restricted, the ARDL request is cancelled.

Basic Alternate Route Selection (BARS)**Network Alternate Route Selection (NARS)****Coordinated Dialing Plan (CDP)**

Only TLD telephones are subject to NFCR when calls are routed by BARS/NARS/CDP. CTD and CUN calls routed by BARS/NARS/CDP are not subject to NFCR treatment.

Direct Inward System Access (DISA)

If the DISA DN has a TLD, CUN, or CTD Class of Service, calls made through DISA are eligible for NFCR treatment.

Electronic Lock Network Wide/Electronic Lock on Private Lines

With NFCR, toll denied stations are allowed or denied calling privileges according to the Facility Restriction Level (FRL) assigned to the NCOS defined in the protected line block. For a locked set, NCFR uses the FRL assigned to the CNCS to determine its calling privileges if one is defined; if no CNCS is defined, the NCOS of the locked set will be used.

Enhanced Flexible Feature Codes - Outgoing Call Barring

Outgoing Call Barring uses NFCR trees to define the digit sequences that are not allowed for each level of barring. However, Outgoing Call Barring (OCB) analyses all dialed digits, whereas NFCR only analyses digits outpulsed on trunks. This means that the same tree will not normally be usable for both features, unless only Coordinated Dialing Plan trunk calls are to be blocked for both features and no digit manipulation is done.

Forced Charge Account

Calls placed through the Forced Charge Account feature are not eligible for NFCR treatment.

Network Class of Service (NCOS)

Toll Denied stations and trunks must have an NCOS assigned to be allowed or denied calling privileges by NFCR. This is because the FRL associated with the NCOS of the user determines which codes are allowed or denied on an outgoing trunk call. The range of NCOS groups varies as follows:

- (0)-3 for standalone CDP
- (0)-7 for BARS/CDP and NFCR
- (0)-15 for NARS and NFCR
- (0)-99 for BARS/NARS/CDP/NFCR

Scheduled Access Restrictions (SAR)

Associating an FRL with a different NFCR tree affects any Network Class of Service (NCOS) that uses that FRL. Each such NCOS assigned to an SAR group might need to be reconsidered. Also, different facility restriction levels and NFCR trees are used at different times according to the NCOS assigned to the SAR group.

Feature packaging

New Flexible Code Restriction (NFCR) package 49 requires:

- Network Class of Service (NCOS) package 32.

Feature implementation

LD 15 – Enable NFCR for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FCR	Customer Data Block. Gate opener.
CUST	0-99	Customer number.
NFCR	(NO), YES	(Disable) enable NFCR.
- MAXT	1-255	Maximum number of code restriction trees.

LD 87 – Define NCOS groups and associated FRL.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
CUST	0-99	Customer number.
FEAT	NCTL	Network Control.
NCOS	(0)-99	NCOS group.
FRL	0-7	FRL is assigned to each NCOS. It determines the entries in a route list (RLI) to which it has access. 0 is the most restrictive, 7 is the least restrictive and can access more entries.

LD 49 – Add, change, or print code restriction trees.

Prompt	Response	Description
REQ	NEW, CHG, PRT	Create new, change, or print data.
TYPE	FCR	NFCR data block.
CUST	0-99	Customer number.
CRNO	(0)-254	Code restriction tree number.
INIT	ALLOW, DENY	Allow or deny all codes.
If INIT = ALLOW the following prompts appear:		
DENY	xx...xx	Digit sequence to be denied.
ALLOW	xx...xx	Digit sequence to be allowed.
BYPS	xx...xx	Digit sequence to be bypassed.
If INIT = DENY the following prompts appear:		
ALLOW	xx...xx	Digit sequence to be allowed.
DENY	xx...xx	Digit sequence to be denied.
BYPS	xx...xx	Digit sequence to be bypassed

LD 16 – Associate an FRL with a code restriction tree.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
CUST	0-99	Customer number.
ROUT	0-511	Route number.
FRL	x yyy	x = FRL number (0-7). yyy = code restriction tree number (1-255). FRL is reprompted to allow input of eight FRLs. A carriage return causes the next prompt to appear.

LD 10 – Assign Analog (500/2500 type) telephone a Toll Denied and Network Class of Service.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
NCOS	(0)-99	NCOS.
CLS	TLD	Toll Denied Class of Service.

LD 11 – Assign Meridian 1 proprietary telephones a Toll Denied and Network Class of Service.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616..
TN	c u	Terminal Number.
NCOS	(0)-99	NCOS.
CLS	TLD	Toll Denied Class of Service.

LD 14 – Assign a trunk a Toll Denied and Network Class of Service.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaa	Trunk type.
TN	c u	Terminal Number.
NCOS	(0)-99	NCOS.
CLS	TLD	Toll Denied Class of Service.

LD 24 – Assign a DISA data block a Toll Denied and NCOS.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	DIS	DISA data block.
CUST	0	Customer number.
SPWD	xxxx	Security password.
DN	xxx....x	DISA Directory number.
NCOS	(0)-99	NCOS.
COS	TLD	Toll Denied Class of Service.

LD 88 – Assign an Authorization code a Toll Denied and NCOS.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	AUB	Authorization code data block.
CUST	0	Customer number.
SPWD	xxxx	Security password.
CLAS	(0)-115	Class code to be assigned.
NCOS	(0)-99	NCOS.
COS	TLD	Toll Denied Class of Service.

Feature operation

No specific operating procedures are required to use this feature.

Night Key for Direct Inward Dialing (DID) Digit Manipulation

The Night Key for DID Digit Manipulation (NKDM) uses DID Incoming Digit Conversion (IDC) to convert received DID digits into a Night Service Directory Number (DN). NKDM is used to switch between Night and Day modes.

The Day/Night mode is controlled by a DID Route Control (DRC) key on an Attendant Console, or Meridian 1 proprietary telephone. There can only be one DRC key for each DID route.

The Night tree table is invoked in any of the following ways:

- when the attendant goes into Night Service, or the last attendant activates the POS BUSY key (provided that Attendant Overflow Position is not equipped)
- when an attendant activates the DID Route Control (DRC) key
- when a Console Presentation Group (CPD) attendant goes into Night Service, or
- when a Meridian 1 proprietary telephone activates the DRC key.

In each case, only the DID routes controlled by the initiating source (console or telephone) are affected.

Operating parameters

The maximum number of conversion tables per customer is 255. These tables are shared between the Incoming Digit Conversion (IDC) and the New Flexible Code Restriction (NFCR) trees.

The DID Route Control (DRC) key can only be configured on keys with lamp indicators.

When using the Night tree table, the same assumptions that apply to Incoming Digit Conversion (IDC) apply to this feature.

The Night tree table for DID Digit Manipulation (NKDM) applies only to DID routes.

For each DID route, there is only one configured DRC key per telephone.

For a Dialed Number Identification Service (DNIS) route, make sure that the correct table is selected for the conversion of incoming digits.

Feature interactions

Attendant Administration

The DID Route Control (DRC) key is not supported by Attendant Administration.

Attendant Overflow Position (AOP)

When the last attendant activates the POS BUSY key, the system does not go into Night Service if an AOP Directory Number (DN) is available.

Automatic Set Relocation

Delete the DRC key from a telephone before performing Automatic Set Relocation. If this is not done, the DRC lamp is activated on the wrong telephone.

Console Presentation Group (CPG)

The Day/Night table can be activated with the DRC key by any attendant in the CPG group.

Feature packaging

The Night Key for DID Digit Manipulation (NKDM) is part of base X27 system software. The following packages are required:

- Network Class of Service (NCOS) package 32
- New Flexible Code Restriction (NFCR) package 49, and
- Incoming Digit Conversion (IDC) package 113.

Feature implementation

LD 15 – Enable Incoming Digit Conversion for Night mode.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FCR	Customer Data Block. Gate opener.
CUST	0	Customer number.
NFCR	(NO), YES	Enable New Flexible Code Restriction.
- MAXT	1-255	Maximum number of NFCR trees.
IDCA	(NO), YES	Enable IDC. IDC cannot be disabled if any telephone has a DCR key.
- DCMX	1-255	Maximum number of IDC conversion tables. The sum of the values of MAXT and DCMX cannot exceed 255 per customer.

LD 49 – Add, change, or print code restriction trees.

Prompt	Response	Description
REQ	NEW, CHG, PRT	New, change, or print data.
TYPE	IDC	NFCR data block.
CUST	0	Customer number.
DCNO	0-254	IDC tree number.
IDGT	0-9999 0-9999	Directory Number (DN) or range of DNs to be converted. The external DN to be converted is output and the user enters the internal DN. For example, to convert the external DN 3440 to 510, enter 3440. The system prompts 3440 and you enter 510.

LD 16 – Set IDC tree for Night mode. Note that a DID route cannot be removed if it is controlled by a DCR key.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
TKTP	DID	DID route.
IDC	(NO), YES	Enable IDC.
DCNO	0-254	IDC tree for Day mode.
NDNO	0-254 <CR>	IDC tree for Night mode. Set tree to the same number as Day mode (the default).

LD 12 – Define a DID Route Control (DRC) key on an Attendant Console.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
KEY	xx DRC	DID Route Control key, where: xx = key number 0-9 (0-19 on the M2250).

LD 11 – Define a DRC key on a Meridian 1 proprietary telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx DRC yyy	DRC, where: xx = key number, and yyy = route number (0-511).

Feature operation

Follow these steps to change one DID route to Day/Night mode from the Attendant Console:

- 1 Select an idle loop key.
- 2 Press **DRC** and dial the access code of the DID route (ACOD).
If the DRC indicator is on steadily, the route is in Day mode.
If the DRC indicator is flashing, the route is in Night mode.
- 3 Press **DRC** again.
If the DRC indicator was on steadily, the route is put into Night mode.
If the DRC indicator was flashing, the route is put into Day mode.

Follow these steps to change all DID routes to Day/Night mode from the Attendant Console:

- 1 Select an idle loop key.
- 2 Press **DRC** and dial the octothorpe (#).
If the DRC indicator is on steadily, all routes are in Day mode.
If the DRC indicator is flashing, one or more routes are in Night mode.

3 Press **DRC** again.

If the DRC indicator was on steadily, all routes are put into Night mode.

If the DRC indicator was flashing, all routes are put into Day mode.

Note: To change from some routes in Night mode to all routes in Night mode, you must first put all routes into Day mode.

Follow these steps to change one DID route to Day/Night mode from a telephone:

1 Check the **DRC** indicator.

If the DRC indicator is on steadily, the route is in Day mode.

If the DRC indicator is flashing, the route is in Night mode.

2 Press **DRC**.

The route toggles between Night and Day mode.

Night Service

Night Service permits incoming calls normally directed to the attendant to be routed to a defined destination. A separate Night key/lamp pair allows the attendant to put the system into Night Service.

Three types of Night Service are provided which the customer can specify separately or in any combination:

- Selected Trunks to Selected Directory Number (DNs): Some or all of the trunks can be assigned to ring selected DN's when the system is in Night Service. The assignment of trunks to stations can be modified by the attendant or by a service change.
- Night Answer Telephone: All calls normally routed to the Attendant Console can be routed to one particular DN that is designated as the night answer destination for the customer. Trunk Answer From Any Station (TAFAS) can be used to pick up calls routed to this number. With TAFAS in effect, incoming calls activate a common alerting device, such as a bell, when the system is in Night Service. Any user can answer the call by dialing the Special Prefix (SPRE) code and then pressing 4.
- Night Service by Time of Day (NSTD): NSTD allows one of a group of Directory Numbers (DNs) to be selected for call routing based on the time of day instead of all calls being routed to a fixed Night Service DN. NSTD allows the definition of up to four Night DN's with a time associated with each. Calls are forwarded to the appropriate DN by the associated time.

Operating parameters

Night Service can only be activated from the Attendant Console.

Any restrictions or features assigned to the night answering station apply. Therefore, a fully restricted (FRE) Class of Service should not be used for Night Service Directory Numbers (DNs), unless the FRPT prompt in LD 17 is OLFR (allow FRE telephones to serve as a Night DN).

A bell circuit or alerting device must be provided by the customer for TAFAS. This device must be compatible with the 20 Hz ringing signal (i.e., two seconds on, four seconds off).

If a trunk is assigned a Night DN other than the Night Answer Number defined in the Customer Data Block, incoming calls to that trunk cannot be picked up with the TAFAS feature. Assignment in LD 14 takes precedence over the Customer Data Block.

If an attendant is not assigned to a customer, the customer is automatically in Night Service upon system start-up.

The following tables show how calls are directed during Night Service, depending on the time of day:

Call is directed to Night DN	Between times:
NIT1 DN	TIM1 and TIM2
NIT2 DN	TIM2 and TIM3
NIT3 DN	TIM3 and TIM4
NIT4 DN	TIM4 and TIM1

It is possible to remove a defined night DN without modifying the other DNs. For example, if NIT3 is removed, calls are directed as follows:

Call is directed to Night DN	Between times:
NIT1 DN	TIM1 and TIM2
NIT2 DN	TIM2 and TIM4
NIT4 DN	TIM4 and TIM1

Feature interactions

Call Waiting Redirection

Night Service has the same interaction with the Call Waiting Redirection feature as attendant-extended calls. Since the Call Waiting Redirection feature applies CFNA treatment to a Call Waiting call, the Call Waiting Redirection feature also has precedence over the Call Waiting recall timer.

Directory Number Expansion (DNXP)

If the DNXP package is equipped, the Night DNs can be up to seven digits; otherwise, the DN can be a maximum of four digits.

DPNSS1 Diversion

If a diverted call encounters an attendant in night service, the call receives Night Service Diversion if available.

Multi-Party Operations

During Night Service, mishandled calls are routed to the night DN. External calls, other than DID calls, are queued until answered. TIE calls are disconnected if the night DN is busy.

Night Service enhancements

When the Night Service key is pressed on any Attendant Console, the customer enters Night Service and all Attendant Consoles are made Position Busy. It is then necessary to check all consoles for presented but unanswered calls, which must be cleared and requeued.

Position Busy

When all attendants activate the Position Busy key, Night Service is in effect unless the Attendant Overflow Position (AOP) feature is equipped. If AOP is equipped, the Night key must be pressed to invoke Night Service. A call that is rerouted due to AOP is not redirected to the Night DN if the system is subsequently put into Night Service.

The following interactions apply to Night Service by Time of Day (NSTD):

Call Park Recall

Calls parked by the attendant recall on the Night Service DN that is current at the time of recall.

Calls Waiting in Attendant Queue

Incoming calls ringing at the Attendant Console at time changeover are routed to the Night DN that just expired. New calls are routed to the new Night DN. If the attendant cancels Night Service, new calls are presented to the Attendant Console.

Once a call begins ringing at a Night DN, it stays there even if Night Service is cancelled or the timer expires.

Multi-Tenant Night Service

The same conditions that apply to the customer night number also apply to the Multi-Tenant Night Service. Console Presentation Group (CPG) allows separate night treatment for each tenant.

Meridian 911 Call Abandon

Abandoned calls are part of the transition mode when agents go to Night Service and the supervisor selects transition mode.

Series Call

If the attendant extends a Series Call and goes into Night Service before it recalls to the attendant, the call recalls to the night DN and Series call treatment is canceled.

Trunk Answer from Any Station (TAFAS)

When a DN changeover occurs while an incoming call is ringing the current Night DN and a new incoming call is ringing the new Night DN, a user activating TAFAS picks up the call from the Night DN that just expired. However, if the ringing call is not picked up within one minute after the Night DN time changeover, the user can no longer pick up the call using TAFAS.

Trunk to Trunk Connection

If an attendant is placed in Night Service, calls to the attendant are directed to a station with the Night DN. Recalls are not directed to the Night DN. Recalls are put in the attendant call waiting queue when in Night Service.

Feature packaging

Night Service is included in base system software.

Feature implementation

LD 15 – Add or change Night Service for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB NIT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- NIT1	xxx...x, X	Night Service DN 1 (enter X to remove). Night Service DN times must be defined in ascending order.
- TIM1	0-23 0-59	DN 1 time (hour and minute).
- NIT2	xxx...x, X	Night Service DN 2 (enter X to remove).
- TIM2	0-23 0-59	DN 2 time (hour and minute).
- NIT3	xxx...x, X	Night Service DN 3 (enter X to remove).
- TIM3	0-23 0-59	DN 3 time (hour and minute).
- NIT4	xxx...x, X	Night Service DN 4 (enter X to remove).
- TIM4	0-23 0-59	DN 4 time (hour and minute).

LD 14 – Add or change Night Service DN for trunks.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaa	Trunk type.
TN	c u	Terminal Number.
NITE	xxx...x, X	Night Service DN for this trunk (enter X to remove).

Feature operation

To place a customer into Night Service:

- 1 Press **Shift** plus  at any console, or unplug all handsets and headsets.

To cancel Night Service when all handsets and headsets are unplugged:

- 1 Plug in at least one handset or headset.

To cancel Night Service at a console when a handset or headset is plugged in:

- 1 Press **Shift** plus 

Note: If all Attendant Consoles are put in Position Busy, the system automatically goes into Night Service.

Night Service Enhancements

Night Service Enhancements introduces the following capabilities:

- All Calls Remain Queued for Night Service,
- Recall to Night DN,
- Requeuing of Attendant Presented Calls, and
- Camp-on from Inquiry Call (Station Camp-on).

All Calls Remain Queued for Night Service

This capability ensures that when Night Service is activated all calls in the attendant queue remain queued for Night Service treatment. Depending on the call type, the call may be presented to the Night DN, or continue waiting for the called party to answer. This includes Call Forward No Answer calls, recalls, and transfers to the attendant.

This capability applies to both standalone and networking environments. Within a networking environment, if Network Attendant Service (NAS) is equipped at all nodes, the calls are presented to a remote attendant, remote Night DN, or local Night DN, depending on the NAS configuration. This treatment applies to external calls only, since internal calls are not queued against a remote Night DN. If NAS routing is not involved, external calls are presented to the local Night DN.

Recall to Night DN

If the attendant camps-on party A to a busy set B, then goes into Night Service, the recall goes to the Night DN only if A is an external party (i.e., CO, DID, FEX, WATS). This happens for a local camp-on.

For a Meridian 1 Customer Defined Network (MCDN) camp-on with A at the far end of the MCDN NAS network and for a DPNSS1 camp-on with A at the far end of the DPNSS1 network the situation is as follows. If A is an internal party, the recall is left in the attendant queue, and can be answered by the attendant if the attendant returns to day service.

This internal/external difference does not hold true if the International Supplementary Features (SUPP) package 131 is equipped.

Requeuing of Attendant Presented Calls

The Requeuing of Attendant Presented Calls is an enhancement to the Attendant Forward No Answer feature. If a call presented to an Attendant Console is not answered, pressing the Position Busy key causes the call to be placed in the attendant queue.

If the console is the customer's last-active console, and Attendant Overflow Position (AOP) is active, a ringing call or a Call Waiting recall on the Destination side is disconnected. This ensures that any queued call will be presented at the AOP.

Any call presented at the AOP is not removed from the console and requeued if the Position Busy key is pressed.

The call is removed unanswered only if the Attendant Forward No Answer feature is active. In this case, after the Attendant Forward No Answer time out expires, the call is requeued and the AOP is idled.

All consoles will enter the Position Busy state if the Night Service key is pressed on any of the customer's consoles. Therefore, all consoles should be checked for presented, but unanswered calls, which have been requeued.

Camp-on from Inquiry Call (Station Camp-on)

Camp-on from Inquiry Call allows an internal station to camp an external call on to another internal station that is busy. Prior to the introduction of this capability attendants were the only parties that could camp calls on to busy internal stations. The term internal station includes stations on other nodes within an Meridian 1 Customer Defined Integrated Services Digital Network (MCDN).

When a transferring party reaches a busy desired internal party, the transferring telephone will receive ringback tone (providing certain conditions are met). When the transferring party completes the transfer, the external (calling) party will Camp-on to the desired party and the external party (an external party is any CO, DID, FEX, or WATS call) will receive ringback tone or announcement.

This feature applies to both standalone and network environments.

Within a network environment, the transferring and Camped-on to stations may be on the same or different nodes, as long as all nodes are configured with Network Station Camp-on.

Operating parameters

Camp-on Indication

When a call is extended from an attendant to a busy station there is a specific combination of tones and indicator states to identify the Camp-on state.

When an inquiry call is made from a station, there is only one way for the user to distinguish between a busy set and an idle ringing set. That way is to ensure that the response to the STCB prompt in the Customer Data Block (LD 15) of the Camped-on to (desired) set is YES. Otherwise, ringback tone is provided in both cases.

Recall to Night Directory Number

When the customer goes into Night Service, if the Night DN is idle, only the first call is presented to it.

The Night DN may be defined as a multiple appearance DN with multiple call arrangement; all sets assigned the Night DN should be on the same node.

According to NAS routing, the Night DN defined on a node must be on the given node (local). If for any reason the Night DN is not on the local node Night Service Enhancements (NSE) are no longer supported.

In any case, NAS routing takes precedence over NSE, so if NAS routing is involved the call will be presented to the Night DN defined according to the NAS configuration.

If NAS routing is not involved and the Night DN defined on this node is located at a remote node (NSE no longer supported), the Night DN must be a remote Attendant DN to ensure calls are queued.

Night Service Network Environment

In network configurations with NAS routing, the Night Service Enhancements feature must be configured on each node in the network.

Camp-on from Inquiry Call (Station Camp-on)

The restrictions which currently apply to the operation of the Camp-on feature from an Attendant Console also apply to Camp-on from Inquiry Call (Station Camp-on).

These restrictions are:

- Camp-on will not be permitted if the desired station is in a state other than established (i.e., ringing, dialing).
- Only one call at a time may be Camp-on a busy station.
- Calls cannot Camp-on to a station with the Call Waiting feature configured.
- The station camped-on to will be given Warning Tone only if the customer has Camp-on Tone Allowed (CTA) in the Customer Data Block (LD 15) and the station has Warning Tone Allowed (WTA) Class of Service assigned. If the station has Warning Tone Denied (WTD) Class of Service assigned the Camp-on will take effect without giving any Camp-on Tone to the camped-on to (desired) party.
- The transferring station will receive Busy Tone only if the response to the STCB prompt in the Customer Data Block (LD 15) of the Camped-on to (desired) set is YES. Otherwise, the transferring station will receive ringback tone.

Feature interactions

Attendant Overflow Position

If a call with a ringing party on the destination side is presented at the last-active Attendant Console, and there is an active Attendant Overflow Position, then the ringing destination will be disconnected when the call is requeued. Likewise, if the call is a Call Waiting recall, Call Waiting will be canceled.

Call Waiting

Call Forward All Calls

Hunting

Call Forward Busy

Call Waiting, Call Forward All Calls, Hunting, and Call Forward Busy (for DID calls only) all take precedence over Camp-on.

Call Waiting Redirection

Night Service has the same interaction with the Call Waiting Redirection feature as attendant-extended calls. Since the Call Waiting Redirection feature applies CFNA treatment to a Call Waiting call, the Call Waiting Redirection feature also has precedence over the Call Waiting recall timer.

Centralized Attendant Service

Centralized Attendant Service (CAS) takes precedence over Night Service. If a user in a remote node in Night Service deactivates CAS and Camps-on an external call from the night station to a busy DN, and then reactivates CAS, any subsequent Camp-on recalls will be routed to the remote DN.

Dial Impulse Analog (500/2500 type) Set

A Dial Impulse Analog (500/2500 type) station must have TSA Class of Service to perform a station Camp-on.

Interposition Attendant Calls

This enhancement does not apply to interposition calls, which remain on the console until answered. The requeuing of interpositional calls is not allowed.

Network Attendant Service
Centralized Attendant Service
Attendant Overflow Position

Network Attendant Service (NAS) is mutually exclusive with Centralized Attendant Service and Attendant Overflow Position. The routing configuration for NAS will apply during Night Service. External calls and recalls may be queued to a remote Night DN, if defined. Internal calls and internal recalls queued during Day Service will be dropped, if the Night DN has been defined on a remote node.

For Camp-on from Inquiry Calls, NAS must be equipped at each node of the network.

Night Service

When the Night Service key is pressed on any Attendant Console, the customer enters Night Service and all Attendant Consoles are made Position Busy. It is then necessary to check all consoles for presented, but unanswered calls which must be cleared and requeued.

Position Busy
Attendant Forward No Answer

Any call which has been presented to the Attendant Overflow Position cannot be not be removed from the set and requeued by pressing by Make Set Busy (MSB) key. The call will only be removed if the Attendant Forward No Answer feature is active, and the Attendant Forward No Answer Timer has timed out. In this case, the call is requeued and the Attendant Overflow Position is idled.

Trunk to Trunk Connection

Recalls made while the attendant is in Night Service are routed to the Night DN, if the original call is an external call. In such a case, the destination party is disconnected, the internal network trunk is released and the original extended call is presented to the Night DN. If the original call is internal, recalls are put in the attendant call waiting queue when in Night Service.

Feature packaging

The All Calls Remain Queued for Night Service, Recall to Night DN, and Requeuing of Attendant Presented Calls Night Service Enhancements are packaged as part of the International Supplementary Features (SUPP) package 131 for standalone applications. For network applications, the requirements are the International Supplementary Features (SUPP) package 131 and the Network Attendant Service (NAS) package 159 and its prerequisites.

For standalone Camp-on from Inquiry Call (Station Camp-on) applications the requirements are the Station Camp-on (SCMP) package 121 and the International Supplementary Features (SUPP) package 131.

For network Camp-on from Inquiry Call (Station Camp-on) applications the requirements are the Station Camp-on (SCMP) package 121, the International Supplementary Features (SUPP) package 131 and the Network Attendant Service (NAS) package 159 and its prerequisites.

Feature implementation

LD 15 – This overlay is modified to prompt and accept responses to STCB (Station Camp-on Busy Tone) and NSCP (Network Station Camp-on). In response to the STCB prompt, enter YES or NO to allow or deny Station Camp-on Busy Tone. In response to the NSCP prompt, enter YES or NO to allow or deny Network Station Camp-on in a particular node.

The prompt STCB will be output only if the SCMP (121) package is equipped. The prompt NSCP will be output only if the SCMP (121) and NAS (159) packages are equipped. By default, these two prompts will be set to NO.

Prompt	Response	Description
REQ	CHG, NEW	Change, or add.
TYPE	CDB FTR	Customer Data Block Gate opener.
...		

- STCB	(NO), YES	Station Camp-on Busy tone. Enter NO if Busy Tone is not to be given to the transferring (controlling) party when the desired station is busy. Enter YES if Busy Tone is to be given to the transferring (controlling) party when the desired station is busy. The default is NO.
- NSCP	(NO), YES	Network Station Camp-on. Enter NO if sets on this node are not allowed to have calls camped-on by sets in other nodes. Enter YES if sets on this node are allowed to have calls camped-on by sets in other nodes. The default is NO.

LD 21 – This overlay is modified to print the STCB and NSCP prompts and their responses when the Customer Data Block is printed

The STCB prompt and its response will be output only if the SCMP (121) package is equipped. The NSCP prompt and its response will be output only if the SCMP (121) and NAS (159) packages are equipped.

LD 22 – This overlay is modified to print the SCMP package mnemonic if the Station Camp-on package (121) is equipped.

Feature operation

Prior to describing the operation of the Night Service Enhancements the following terms are defined in terms of these feature operations:

Night DN

The Night DN pertains to Night DNs defined on a customer basis.

According to NAS routing the Night DN defined on a node must be on the given node (local).

External Call

Any call originated by the Public Switched Telephone Network (PSTN) is said to be an external call. This includes the following cases:

- Calls originating on a Public Exchange (Central Office [CO]), Foreign Public Exchange (FEX), Direct Inward Dial (DID), or Wide-area Telephone Service (WATS) trunk and terminating on the local node, and
- Calls originating on a CO, FEX, DID, or WATS trunk on a remote node, Integrated Services Digital Network (ISDN) TIE trunks, and NAS routed Public Switched Telephone Network (PSTN) or ISDN TIE trunks which are handled at the NAS node.

Non ISDN TIE trunks (local and remote) are said to be private trunks and are not treated as carrying external calls, although we may have a PSTN call involved at the originating node.

This definition includes both the standalone and network cases.

Requeuing of Attendant Presented Calls

Prior to the introduction of the Requeuing of Attendant Presented Calls, when a call had been presented to an Attendant Console it remained presented on the console, even if the Position Busy key was pressed.

The Requeuing of Attendant Presented Calls capability changes the system operation such that, if the Position Busy key is pressed on the console when an unanswered call has been presented to it the call will be returned to the attendant queue as if an AFNA time out had occurred.

This capability will not apply if the call is an interposition attendant (attendant to attendant) call. In this case, the call will remain on the console until answered.

In cases where the console is the last active console of the customer and there is an active AOP, if the call involves a ringing party on the destination side, the ringing will be disconnected. Similarly if the call is a Call Waiting recall, the Call Waiting will be canceled. This ensures that the required call will be presented on the AOP, irrespective of normal call type restrictions.

Note that all consoles will enter the Position Busy state if the Night Service key is pressed on any one of a customer's Attendant Consoles. In this case, all consoles must be checked for presented, but unanswered calls which must be cleared from the console and requeued.

Call Handling in Night Service

Calls already Queued when Night Service is Entered

Standalone case

Any external call which is queued, waiting to be serviced by an Attendant Console, when a customer goes into Night Service will continue to be queued until it can be presented to the appropriate Night DN.

Network case

As NAS takes precedence over NSE, if NAS routing is involved, the call will be presented to a remote attendant, or remote Night DN, or local Night DN, according to the NAS configuration.

If NAS routing is not involved, the call will be presented to local Night DN.

External Calls already Queued when Night Service is Entered

Operation Prior to Night Service Enhancements

The treatment of queued external calls was as follows:

- Dial "0" calls from DIDs or incoming CO calls remained queued for the Night DN.
- Call Forward Busy calls remained queued for the Night DN.
- Call Forward No Answer calls were not queued for a busy Night DN. If a call could not be presented immediately it was removed from the queue and the originating party was given Busy Tone.
- Attendant Recalls (ARC) and transfers to the attendant DN were removed from the attendant queue. The consultation call was "canceled", if the held call was an external party it was reconnected to the transferring (controlling) party.
- All intercepts involving an external party were queued for the Night DN.
- Timed reminder recalls remained queued, but were not presented to the Night DN.

Operation with Night Service Enhancements

The NSE capabilities change the operation such that Call Forward No Answer calls, ARCs, and transfers to the attendant will remain queued for the Night DN. In addition to these call types, timed reminder recalls will also be presented to the appropriate night DN.

Timed reminder recalls treatment is the following:

- Ringing stops for slow answer recalls when the recall occurs.
- Call Waiting is canceled when the recall occurs.
- Camp-on is canceled when the recall occurs.

Internal Calls already Queued when Night Service is Entered***Operation Prior to Night Service Enhancements***

Any internal call that was already queued for the attendant was not queued for the Night DN.

When a customer went into Night Service, if the Night DN was idle, the first call was presented to the Night DN. Any internal calls not presented in this way were given busy tone and removed from the queue.

Operation with Night Service Enhancements***Standalone case***

With NSE the operation is changed such that all internal calls which should be presented to the Night DN will remain queued until the customer Night DN becomes available.

Network case

If the call was extended by the attendant over MCDN with NAS active, and the call is camped-on or call waiting at the remote node, the call will remain queued at the local node waiting for an answer at the remote node.

Timed Reminder Time Outs during Night Service

When a timed reminder time out occurs during Night Service, depending on the call type, the call may be presented to the Night DN or continue waiting for the called party to answer. External (PSTN originated) calls will be presented to the Night DN or, if the Night DN is busy will wait in the queue until the Night DN becomes available.

In the case of a timed reminder Camp-on recall, the Camp-on is canceled when the recall occurs (time out).

In case of a slow answer recall, the desired set will be disconnected when the recall occurs (time out).

In case of a timed reminder Call Waiting recall, the Call Waiting will be canceled when the recall occurs (time out).

According to NAS routing these calls may be presented to a remote attendant or a remote Night DN. When the NAS routing starts, the destination (desired party) is released and the call is presented or queued to the appropriate terminal (i.e., remote attendant or local Night DN or remote Night DN).

External calls that recall will be presented to, or queued for, the Night DN.

Internal calls that recall will be dropped when NAS routing is involved and the Night DN is at a remote node, because when NAS routing takes place internal call recalls are not queued for the Night DN.

The station to which the call is being transferred (i.e., the station on which the call is ringing, Call Waiting or camped-on) does not have to be located on the same node as the transferring (controlling) station.

If the attendant on the same node as the Night DN comes back to Day Service, timed recalls queued for the Night DN will be presented to the attendant as recalls.

Camp-on from Inquiry Call (Station Camp-on)

Standalone case

Any station, not necessarily the Night DN, attempting to transfer an external call, may, during the associated inquiry call, camp the trunk on to a busy station.

The camp-on will take affect from the moment the transferring station has completed the transfer to the desired DN.

The transferring station will hear Ringback Tone or Busy Tone depending on the option entered in response to the STCB prompt in the Customer Data Block (LD 15). This prompt applies to any set, not just the Night DN. By default (STCB is set to NO), the transferring party will hear Ringback Tone.

The desired station will hear Camp-on tone if it has WTA Class of Service assigned. Otherwise, if it has WTD Class of Service, the Camp-on will take affect without the desired party being informed a call is camped-on.

When the transfer is completed, the external party is camped-on to the desired station and receives either ringback tone or an announcement.

Network case

Any station, not necessarily the Night DN, attempting to transfer an external call across an ISDN network may, during the associated inquiry call, Camp-on the trunk on to a busy station.

The location of the transferring party has no effect on the Station Camp-on capability.

The Camp-on will take Affect from the moment the transferring station has completed the transfer to the desired DN.

The transferring station will hear ringback tone or busy tone depending on the option entered in response to the STCB prompt in the Customer Data Block (LD 15). This prompt applies to any set, not just the Night DN. By default (STCB is set to NO), the transferring party will hear ringback tone. The tone given, either ringback tone or busy tone, is determined by the node in which the desired (Camped-on to) party resides.

The desired station will hear Camp-on tone if it has WTA Class of Service assigned. If it has WTD Class of Service, the Camp-on will take affect without the desired party being informed a call is camped-on.

When the transfer is completed, the external party is camped-on to the desired station and receives either ringback tone or an announcement.

Recall Timing on Camp-on Calls

When any station extends an external call, recall timing will be initiated if the call is camped-on to a busy station.

The recall timing will start from the moment that the extending station “releases” the call. The value of the recall timer is set by the prompt RTIM in the Customer Data Block (LD 15).

At the recall, the Camped-on call will be routed to the attendant. If the attendant is in Night Service, night treatment is given, and if NAS routing is active, the call will be routed according to the NAS configuration.

Standalone case

When the recall to the attendant occurs, the Camp-on is canceled. If the attendant is busy during the recall, the recall will be queued.

Network case

When the recall occurs and the attendant has answered the recall, the call will still be camped-on to the desired party. If during the recall the attendant is busy, the recall will be queued.

Night Service, Enhanced

This feature modifies the existing Night Service operation by allowing Public Network (Central Office [CO], Direct Inward Dialing [DID], Foreign Exchange [FEX], and Wide Area Telephone Service [WATS]) trunks to be assigned to specific Directory Numbers (DN) during Night Service.

With this feature each customer will be able to assign Public Network trunks to one of nine Night Groups. Each Night Group will allow the customer to define up to nine Night DNs. During Night Service, incoming calls will be routed to one of the Night DNs defined for the group. The actual DN the call will be routed to is determined by the Night Service Option number selected at that time.

The customer will also be able to define whether Night Call Waiting tone will be given to Night stations. With Night Call Waiting tone allowed, busy Night stations are notified when an incoming call is terminating on them. The incoming call will be queued on the Night station until it becomes idle. When the Night station becomes idle, the incoming call will be presented.

This enhancement allows incoming DID trunks to be queued against busy Night stations, thereby making their operation the same as all other Public Network trunks.

Normal Night Service

With the feature active, the existing Night Service feature is enhanced by providing a night (NITE) prompt for DID trunks. Night numbers for DID trunks can be defined in their respective trunk blocks against the prompt. Attendants will be able to change their night numbers by specifying their corresponding access codes and member numbers using the existing Night Service feature.

Group Night Service

The customer is allowed to assign individual Public Network trunks to one of nine Night Group numbers (1 to 9). Each Night Group has up to nine Night Directory Numbers associated with it. During Night Service, incoming calls on a trunk will be routed to one of the Directory Numbers associated with that trunk. The actual number called is determined by a Night Service Option number corresponding to the Night Group number programmed by the attendant during Day service.

When an incoming call is routed to a busy directory number, an optional Night Call Waiting tone may be applied to that number to notify the user that a call is waiting. The call on the trunk will be queued until the night directory number becomes free.

Operating parameters

The same feature requirements apply as for Night Service.

Enhanced Night Service does not apply to auto-terminate trunks.

Enhanced Night Service is permanently activated if the system has no attendant and the ENS option is set to "YES." In this case, the Night Service Option number can only be programmed in the Customer Data Block (LD 15).

Enhanced Night Service uses one Speed Call list as the Night Number Table.

The operation of the optional Night Call Waiting Tone is the same as Call Waiting Tone.

Night Service Option 0 and Night Service Group 0 are reserved for the customer Night number and should not be programmed in LD 18.

Feature interactions

Call Waiting (CWT)

This feature will terminate incoming Night calls to busy Night DNs by applying Call Waiting. This will still be done even if the Night DN is an analog (500/2500 type) (500/2500) telephone with Call Waiting Denied (CWD) Class of Service, or if the Night DN is a Meridian 1 proprietary telephone without a Call Waiting (CWT) key assigned.

All telephones – both analog (500/2500 type) and Meridian 1 proprietary – will be given Night Call Waiting tone, if the NWT prompt in LD 15 was responded to with “YES,” regardless of the Warning Tone (WTA/WTG) Class of Service setting of the telephone. Meridian 1 proprietary telephones will be given Night Call Waiting tone in the handset, instead of the speaker buzz given for Call Waiting.

Direct Inward System Access (DISA)

It is not possible to assign a Night Service Group Number to any trunk that is a member of a route that is set to auto-terminate on a DISA DN.

Multi-Party Operations

During Night Service, mishandled calls are routed to the night DN. External calls, other than DID calls, are queued until answered. TIE calls are disconnected if the night DN is busy.

Multi-Tenant service

Any restrictions that exist in the system preventing individual Tenant access to certain routes will not be checked when the Night Number Table is programmed. It will be up to the technician to ensure all such restrictions are taken into consideration.

The tenant to route restrictions will be enforced when an attempt is made to terminate an incoming call on a Night DN via the Night Number Table. If the termination to the Night DN is not allowed, Overflow tone (Fast Busy) will be given to the incoming trunk.

Trunk Barring (Telephones)

Any incoming trunk call that is routed by Enhanced Night Service to a telephone from which it is barred will not be connected. Overflow tone (Fast Busy) will be given to the incoming trunk instead.

Trunk to Trunk Barring

Any incoming trunk call that is routed to an outgoing Public Network trunk will be barred if Enhanced Night Service is active. Overflow tone (Fast Busy) will be given to the incoming trunk instead. This restriction is in addition to the configured Trunk Barring for the system.

Warning Tone

All telephones – both analog (500/2500 type) and Meridian 1 proprietary – will be given Night Call Waiting tone, if the NWT prompt in LD 15 was responded to with “YES,” regardless of the Warning Tone (WTA/WTB) Class of Service setting of the telephone.

Feature packaging

Enhanced Night Service (ENS) is package 133.

Feature implementation

LD 18 – Configure Night Number Table.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	SCL	Speed Call List number
LSNO	xxx	List number. Enter list number; this number will be entered in response to the NNT prompt in LD 15 (Customer Data Block).
DNSZ	xx	Enter maximum excepted length required.

SIZE	100	Enter 100 to ensure that definitions for Options 1-9 and Groups 1-9 may be input.
STOR	xy z...z	Define Night Number Table entry, where: x is the Night Service Option number (1-9) y is the Night Service Group number (1-9), and z...z is the DN to which calls will be routed. This must be a valid station DN within the system. Network Access Codes are not allowed. Note: Night Service Option 0 and Night Service Group 0 are reserved for the customer Night number and should not be programmed, (i.e., 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 20, 30, 40, 50, 60, 70, 80, and 90).

LD 15 – Configure Enhanced Night Service.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	CDB	Customer data block.
...		
ENS	(NO), YES	(Disable) enable Enhanced Night Service.
- NWT	(NO), YES	(Disable) enable Night Call Waiting tone.
- NNT	0-253	Enter the Speed Call List (LSNO) number of the Night Number Table defined in LD 18.
- NSO	0-9	Night Service Option number.

LD 14 – Configure Enhanced Night Service for trunks.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	DID	Direct Inward Dial.
...		
NGRP	(0)-9	Night Service Group number.

Feature operation

Night number assignment from Night Number Table

A Speed Call List (SCL) is specified in the Customer Data Block (CDB), LD 15, for the purpose of storing night DN's against each Night Service Group and Option.

The designated SCL consists of 100 two-digit translations. The first digit represents the Night Service Option number, while the second digit represents the Night Service Group number. Night Service Option zero (0) and Group zero (0) are reserved for the customer Night number, and therefore should not be defined, (i.e., 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 20, 30, 40, 50, 60, 70, 80, and 90). The following is a sample Night Number Table with an explanation of how calls are terminated:

Option	Group	Number
.	.	
.	.	
.	.	
2	5	4311
2	6	4011
2	7	3893
.	.	
.	.	
3	5	3400
3	6	4321
3	7	4780
.	.	
.	.	

Night stations 4311, 4011, 3893 are assigned to Night Service Option 2 for Night Service Groups 5, 6, and 7 respectively.

If Night Service Option 2 is active, night calls from trunks designated in LD 14 as Night Service Group 5 will be routed to 4311, night calls from trunks designated in LD 14 as Night Service Group 6 will be routed to 4011, and night calls from trunks designated in LD 14 as Night Service Group 7 will be routed to 3893.

If the attendant selects Night Service Option 3, night calls from trunks designated in LD 14 as Night Service Group 5 will be routed to 3400, night calls from trunks designated in LD 14 as Night Service Group 6 will be routed to 4321, and night calls from trunks designated in LD 14 as Night Service Group 7 will be routed to 4780.

Attendant Console

This section describes the sequences to be followed by the attendant to select and query the Night Service Option and to activate Enhanced Night Service.

ACTION	RESPONSE
1 Press Shift key	
2 Press Loop key	Indicator is activated.
3 Press Night key	Indicator flashes. Dial tone is received. Current Night Service Option number is displayed.
4 <u>A) QUERY ONLY</u>	
i. Press RLS key	Indicator next to Loop and Night keys deactivates. Display is cleared.
OR	
B) <u>SELECT</u>	
i. Dial a one-digit (0-9) option number.	Dial tone is removed. Old Night Service Option number (X) is shifted, new Option number (Y) is displayed, and X and Y are separated by a hyphen, (e.g., Y-X).
ii. Press RLS key	Indicator next to Night and Position Busy keys deactivates. Night Service Option is stored. Display is cleared.
5 <u>ACTIVATE</u> <u>Enhanced Night Service</u>	
Press Night key or Position Busy key if you are last active Attendant.	Indicators next to Night and Position Busy keys are activated. Current (active) Night Service Option number is displayed.

No Hold Conference

Combined with Conference, Speed Call, System Speed Call, Autodial, and Hot Line, No Hold Conference (NHC) allows you to establish a Conference call without placing the current caller on hold.

This feature is available in four forms, merging No Hold Conference (NHC) with Autodial, Speed Call, and Hot Line into a single key. The new combined keys are the Conference-Autodial (CA), Conference-Speed Call (CS), and Conference-Hot Line (CH) feature keys. A No Hold Conference (NHC) key can also be configured, acting as a simple Conference key.

Conference-Hot Line can be used in the following two ways:

- The Direct CH option has the number stored with the key.
- The List CH option has a pointer that selects an entry from a Hot Line list.

When a telephone is connected to another party, you can originate a Conference-Autodial (CA), Conference-Speed Call (CS), or Conference-Hot Line (CH) call by pressing the CA, CS, CH, or NHC key. The system determines the destination as if it were a regular Autodial, Speed Call, or Hot Line call. The parties are conferenced in without holding. For example, a call comes in to the customer notifying the customer of a fire. The user wishes to notify the fire department of the emergency without placing the original caller on hold, and the number is stored on the Conference-Autodial key. By pressing the CA key, the customer establishes a Conference call. The fire department is notified and the original connection is maintained.

When you press the feature key, one of the following occurs:

- If the destination is an idle internal Directory Number (DN), that DN rings and the CA, CS, CH, or NHC lamp flashes (60 ipm). You hear no ringback tone.
- If the destination is a trunk with answer supervision, the trunk is seized and the key lamp flashes. The voice path is not established until an answer signal is received.
- When the destination is a trunk without answer supervision, the trunk is seized, the voice path is established, and the key lamp flashes. All tone signals provided by the far end (e.g., ringback) are heard by all parties involved in the Conference call. Calls on trunks without answer supervision are treated as answered after digit outputting is completed.
- When the intended destination is a busy internal DN, trunk, or route, the key lamp fast flashes (120 ipm). Press the active call key to cancel the attempt. The active call key is the key on which the call is established. It can be any key on which a regular Conference call can be made, including the DN key, Call Waiting, and Automatic Call Distribution (ACD) Incalls keys.
- In the case of network blocking, or if a conference port is unavailable, the key lamp fast flashes. Press the active call key to cancel the attempt.
- When the destination is an invalid entry (e.g., a vacant number, or an illegal list entry) the key lamp fast flashes. Press the active call key to cancel the attempt.

Pressing the active call key at any time before the called party responds cancels the attempt, returning the telephone to the state prior to pressing the CA, CS, CH, or NHC key.

If the call is answered, the key lamp goes off, and the called party is added to the existing conversation. By pressing the active call key, the last added party is released. These operations can be repeated as often as necessary, according to your network configuration, to add new parties to an existing conversation.

If the CA, CS, or CH keys are pressed at any time other than during a Conference call, they operate as a regular Autodial, Speed Call, or Hot Line key.

Pressing the NHC key allows the user to dial the number desired for the Conference call.

Operating parameters

Assignable keys are limited to the number of keys available on your telephone.

NHC is available on Meridian 1 proprietary telephones with the CA, CS, CH, and NHC keys. It is not available on the M3000, analog (500/2500 type) telephones, or Attendant Consoles.

The Release (RLS) key has no effect while the key lamps are flashing or fast flashing. Other than during these stages, it can be used to abort the Conference call.

The CA key, like the regular Autodial key, is programmable from the telephone.

The CS and CH keys must have the Speed Call and Hot Line numbers assigned in LD 18.

Data calls are not supported.

All four keys can coexist with each other as well as with other Conference, Autodial, Speed Call, and Hot Line features.

Feature interactions

500/2500 Line Disconnect

If one of the parties in the conference is connected to a 500/2500 port that is in turn connected to a Voice Response Unit (VRU), dial tone is provided to the 500/2500 port when all the other parties in the conference disconnect. This feature enhancement applies in the same way to Call Transfer and Hunting.

Automatic Redial (ARDL)

When an ARDL call is not accepted by the calling party, the No Hold Conference (NHC) key is ignored if pressed.

Call Page Network Wide

A station set or Attendant Console that conferences an external PAGENET uncontrolled call is not blocked. However, an external PAGENET controlled call is blocked.

Centralized Attendant Service

Centralized Attendant Service (CAS) attendants are not supported.

Conference-6

This feature can be enabled at any time that a regular Conference-6 feature can be activated.

Hot Line

The CH key supports only one-way Hot Line calls.

Meridian 911

No Hold Conference calls are treated as internal calls and are linked to the low priority queue of the ACD DN.

Meridian 911 Call Abandon

M911 abandoned calls cannot be No Hold Conferenced.

Recorded Announcement Trunk

A Recorded Announcement (RAN) Trunk cannot No Hold conferenced.

System Speed Call list

Whenever the CS key is programmed for a System Speed Call list, all calls made with that key are System Speed Calls.

Feature packaging

No Hold Conference capability is available when the following features are equipped:

- Autodial (ADL) for CA key configuration
- Speed Call User (SCU) if the CS key is configured
- Enhanced Hot Line (HOT) package 70 for the CH key, and
- System Speed Call (SSC) package 34 to configure CS or CH keys.

Feature implementation

LD 18 – Provision Speed Call or Hot Line numbers for CS and CH keys.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change a Speed Call list.
TYPE	SCL, SSC, HTL	Speed Call, System Speed Call, Hot Line.
CUST	0	Customer number (when TYPE = HTL).
LNSO	0-8190	Speed Call list number.
NCOS	(0)-99	NCOS (when TYPE = SSC or HTL).
DNSZ	xx	Maximum number of digits in a list entry, where: xx = 4, 8, 12, (16), 20, 24, 28, or 31.
SIZE	1-1000	Maximum number of entries in the Speed Call list.
WRT	(YES), NO	Data is correct and list can be updated.
STOR	xxx	xxx = list entry number (0-9, 00-99, or 000-999).
	yy...yy	yy = digits to be stored against the entry (must be equal to or less than DNSZ).
WRT	NO, (YES)	Data is correct and list can be updated.

Note: The WRT prompt follows the SIZE and STOR prompts asking you to confirm the correctness of the data just entered. If data is correct, enter YES or <CR>. A response of NO after the SIZE prompt causes all data entered to be ignored. A response of NO after the STOR prompt generates a warning message (SCH3213) indicating that the data was not stored and must be reentered.

A response of (*), aborts the program. Only the last STOR value is lost. All previous values to which WRT was YES are saved.

The following information is displayed with the WRT prompt, following SIZE: ADDS: MEM: xxxxx DISK: yy.y

Where xxxxx is the amount of protected memory and yy.y is the number of disk records required for the new speed call list. Check the MEM AVAIL and DISK REC AVAIL values displayed before the REQ prompt.

LD 11 – Add or change No Hold Conference for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	l s c u	Terminal Number.
KEY	xx CA 4-(16)-23 y...y	Combined NHC and Autodial key, where: xx = key number, and y...y = target number stored in the key (maximum 23 digits).
	xx CH D yy z...z	Combined NHC and Direct Hot Line key, where: xx = key number yy = number of digits in the target number, and z...z = target number stored within the key.
	xx CH L 0-999	Combined NHC and Hot Line key, where: xx = key number, and 0-999 = Hot Line list entry.
	xx CS yyy	Combined NHC and Speed Call key, where: xx = key number, and yyy = Speed Call list number.
	xx NHC	NHC key, where: xx = key number.

Feature operation

No Hold Conference (NHC)

To establish an NHC call using the NHC key:

- 1 Establish a call.
- 2 Press **NHC**. The indicator goes on steadily.
- 3 Dial the number for the conference. The indicator flashes until the call is answered.
- 4 The conference is complete.

Conference-Autodial (CA)

To store an Autodial number:

- 1 Press **CA** (Conference-Autodial). The CA indicator flashes.
- 2 Enter the number.
- 3 Press **CA**. The indicator goes off.

To use Conference-Autodial:

- 1 Establish a call.
- 2 Press **CA**. The indicator flashes until the call is answered.
- 3 The conference is complete.

Conference-Hot Line (CH)

To establish an NHC call using the CH key:

- 1 Establish a call.
- 2 Press **CH** (Conference-Hot Line). The indicator flashes until the call is answered.
- 3 The conference is complete.

Conference-Speed Call (CS)

To establish an NHC call using the CS key:

- 1 Establish a call.
- 2 Press CS (Conference-Speed Call). The indicator goes on steadily.
- 3 Enter the Speed Call list entry number for the conference number. The indicator flashes until the call is answered.
- 4 The conference is complete.

Note: To disconnect the last NHC conference caller in any of the above procedures, press the DN key once.

North American Numbering Plan

The North American Numbering Plan (NANP), established in 1947 and currently administered by Bellcore, governs the telephone numbering system throughout Bermuda, Canada, the Caribbean, and the United States.

Two components of the NANP are Interchangeable Numbering Plan Areas (INPAs) and Carrier Access Codes (CACs). NPAs are the three-digit prefixes commonly known as area codes. CACs permit telephone users to access any interexchange carrier or operator service provider. CACs must be supported by any entity, such as a hotel, motel, hospital, university, airport, gas station, or pay telephone owner, that makes telephone services available to the public.

Interchangeable Numbering Plan Area

The Interchangeable NPA codes plan was developed in the 1960s to manage the inevitable depletion of available codes. Prior to 1995, all area codes had an N(0/1)X format, where N was any digit from 2 to 9 inclusive and X was any digit, 0 to 9. As of January 1995, area codes have an NXX format, increasing the available codes to 640.

The introduction of Interchangeable NPAs means that an area code (NPA) can appear identical to a Central Office prefix or a private network Location Code (LOC).

It is important to avoid conflicts among NPAs, Central Office prefixes, and LOCs. It is recommended that customers implement 1+ dialing to eliminate ambiguity.

Customers who use Autodial, Speed Call, or the Hot Line feature may need to modify the lists and tables associated with these features to accommodate the new prefixes or to reflect changes to numbers resulting from implementation of 1+ dialing.

The remainder of this section discusses the procedure that Basic Alternate Route Selection (BARS)/Network Alternate Route Selection (NARS) customers need to follow to handle the NPA changes. Although Alternate Route Selection (ARS) and Direct Trunk Access customers need not modify their databases, those who use Call Detail Recording and/or Toll Denied Class of Service should consider the effect of NPA changes on their operations.

BARS/NARS

BARS/NARS prohibits the entry of identical NPAs, Central Office prefixes, or LOCs. Typically, customers construct translation tables with NPA and LOC codes associated with one Access Code and Central Office codes associated with a second Access Code. Now that LOC and NPA codes may be identical, this option no longer guarantees that codes will not conflict.

[Table 5](#) summarizes the options.

Table 5
Access Codes and 1+ dialing

# of Access Codes	Need LOC?	Use 1+?	Results
2	yes	yes	no conflicts
2	yes	no	may need to check that no LOC is identical to any NPA (depends on access code arrangement)
2	no	yes	no conflict
1	no	yes	no conflict
1	no	no	not recommended
1	yes	yes	not recommended

The ideal dialing plan continues to use two Access Codes, with 1+ dialing for NPA calls. (Digit Manipulation can remove the “1” for customers whose Central Office does not support 1+ dialing.)

Customers with two Access Codes that do not want to use 1+ dialing must ensure that no LOCS in the database are identical to existing NPAs. The database needs to be checked whenever a new NPA is introduced.

Customers who do not need LOCs can use a single Access Code and 1+ dialing or two Access Codes, one for NPA and one for the Central Office code.

Software modifications enable users to enter the new interchangeable NPAs in the following tables:

- Customer Data Block, LD 15. Changes allow the interchangeable NPA entry.
- Electronic Switched Networking (ESN) Translation tables, LD 90. Changes allow the interchangeable NPA format to be entered in response to NPA and HNPA prompts. Responses are compared to NARS/BARS call digits to determine call routing.
- Free Calling Area Screening (FCAS) tables, LD 87. Changes allow users to enter the interchangeable NPA format in response to the NPA prompt. Prompt values are compared to dial digits to determine if FCAS should screen calls.
- Feature Group D (FGD) Code Restriction tables, LD 19. Changes allow entry of the interchangeable NPA format in response to the NPA prompt. Feature Group D uses the response to restrict certain calls that terminate at, or tandem through, a given node.
- Meridian 911 (M911) Numbering Plan Digit/Information Digit (NPID) tables, LD 16. Changes allow entry of the interchangeable NPA format.

Upgrades may also require hardware modification depending on route selection capabilities, system type, and software release.

Direct Trunk Access and Alternate Route Selection

Direct Trunk Access and Alternate Route Selection customers need not update software to support interchangeable NPAs. Customers using Direct Trunk Access should continue to monitor local dialing procedures to ensure correct toll call recognition.

System upgrades

Upgrade requirements can include hardware and software. For specific information, consult *Upgrade system installation* (553-3001-250).

Feature implementation

The following prompts have been modified to accept NPA input in the new interchangeable format:

LD 15 – Home Numbering Plan Area modification.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB NET	Customer Data Block. Gate opener.
...		
- ISDN	YES	Change ISDN options.
- HNPA	200-999 1200-1999	Home Numbering Plan Area code.

LD 16 – NPA code definition for the M911 feature.

Prompt	Response	Description
...		
TYPE	NPID	Numbering Plan Digit/Information Digit table.
IDTB	0-7	NPID table number.
NPID	0-9	NPID to be translated.
TRMT	NPA	NPID treatment.
NPA	200-999	Numbering Plan Area code.

LD 19 – NPA input for incoming Feature Group D ANI screening.

Prompt	Response	Description
...		
TYPE	ANI	Feature Group D data block.
ANIT	(OVF), RAN xxx, DN xxx, NCOS xxx	Invalid Automatic Number Identification (ANI) treatment.
NPA	200-999	Three ANI digits in NPA format (prompt accepts only three digits even if 1+ dialing is in effect).

LD 87 – Free Call Area Screening definition.

Prompt	Response	Description
...		
FCI	xxx	Free Call Area Screening table index number.
NPA	200-999 200-999 200-999	Area code or extended NPA code translation (only three digits accepted even if 1+ dialing is in effect).

LD 90 – NARS/BARS.

Prompt	Response	Description
...		
TRAN	AC1, AC2, SUM	Access code 1, 2, or summary tables.
NPA	200-999 200-999 200-999 1200-1999 1200-1999 1200-1999	Area code or extended NPA code translation.
HNPA	200-999 1200-1999	Home Numbering Plan Area code.

Carrier Access Codes

A Carrier Access Code (CAC) gives a caller access to any interexchange carrier or Operator Service Provider (OSP). FCC regulations require that Call Aggregators, such as hotels, motels, hospitals, universities, airports, gas stations, and pay telephone owners, provide selective access to the public. Callers dial the CAC to reach their desired carrier or OSP before dialing the telephone number.

Aggregators, although they must allow callers access to any long distance caller, are permitted to block calls selectively. Selective equal access lets aggregators choose to block direct-dialed calls that result in charges to the originating telephone. Aggregators cannot block operator-assisted calls.

Feature packaging

Equal Access compliance is included in base system software. The Network Class of Service package (NCOS) package 32 is required to configure Equal Access.

Feature implementation

Current Equal Access users who install new software prior to the end of the 1995/1996 FCC interim period must set the Original Carrier Access Code (OCAC) flag in LD 17 to YES when they upgrade their software or begin using a release that supports the CAC expansion feature.

For complete information on implementation and configuration, refer to the Equal Access Compliance feature description in this document.

Feature operation

X27 software allows the following operator-assisted North American and international dialing sequences:

- CAC + 0
- CAC + 0 + (NPA) + NXX + XXXX
- CAC + 01 + CC + NN

X27 software allows or denies these direct-dialed calls:

- CAC + 1 + (NPA) + NXX + XXXX
- CAC + 011 + CC + NN

where

CAC = Carrier Access Code (10XXX or 101XXXX)

NPA = Numbering Plan Area (area code)

NXX = Central Office code format

(N = any digit except 0 or 1; X = any digit 0–9)

XXXX = any four digits

CC = Country Code, and

NN = National number.

Office Data Administration System

The Office Data Administration System (ODAS) package provides a method for retrieving administrative information stored in Meridian 1 Option 11C Compact memory. This feature can expedite administration and billing activities by significantly reducing the need for manual records.

The Station Line Designator (DES) code is any alphanumeric code of one to six characters. The customer selects this number, which can help the customer group telephones according to users, floor location, or any other category.

The following table lists the types of data that can be printed using the Office Data Administration System (ODAS) and the overlay program to use for each task:

Type of data required	LD
Count telephones with specified feature(s)	81
List Directory Number (DN) blocks by DATE entry	22
List DN blocks by station line designator (DES) entry	22
List Terminal Number (TN) alphabetically by DES	83
List TN with specified DATE entry	20
List TN with specified DES entry	20
Print Multiple Appearance Groups	82
Print TN to DES correlation for specified feature(s)	81
Print TN data blocks with specified DATE entry	20
Print TN data blocks with specified DES entry	20

Refer to the Northern Telecom Publication *Office Data Administration System description and engineering* (553-2721-100) for a complete description of the Office Data Administration System (ODAS).

Operating parameters

It is recommended that 1200 baud printers be used on larger systems to reduce the time required to obtain ODAS printouts. When a system is equipped with a 1200-baud printer, a 300-baud device must not be assigned to perform the same function.

Feature interactions

Set Based Administration Features

Changes to data blocks made by using Set-Based Administration will also cause the ODAS time stamps to be updated.

Refer to *Office Data Administration System description and engineering* (553-2721-100).

Feature packaging

Office Data Administration System (ODAS) is package 20 and has no feature package dependencies.

Feature implementation

LD 84/85 – Assign or change station line designator (DES) entry for telephones.

Prompt	Response	Description
TN	l s c u	Terminal Number.
DES	a...x	DES (one to six alphanumeric characters).

LD 10 – Assign or change DES entry for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
DES	a...x	DES (one to six alphanumeric characters).

LD 11 – Assign or change DES entry for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
DES	a...x	DES (one to six alphanumeric characters).

Feature operation

No specific operating procedures are required to use this feature.

Off-Hook Alarm Security

Off-Hook Alarm Security (OHAS) allows locked out calls to be intercepted to a customer-defined Directory Number (DN) other than an attendant (e.g., a security DN). OHAS treatment is determined on a telephone basis by assigning a Class of Service called Alarm Security Allowed (ASCA). By enhancing line lockout, telephones with Alarm Security Allowed (ASCA) Class of Service are intercepted to customer-defined Directory Numbers (DNs) when the dial tone/interdigit timer expires or the telephone is Forced Out of Service (FSVC). Telephones without ASCA continue to use the existing line lockout treatment; refer to the Line Lockout module in this document.

An Off-Hook Alarm Security (OHAS) DN can be a Single Appearance Directory Number (DN), a Multiple Appearance DN, or an Automatic Call Distribution (ACD) DN. The OHAS DN cannot be an attendant DN, Listed DN, SPRE, Virtual ACD Agent, or Trunk Access Code.

To associate a telephone with an OHAS DN:

- Associate the OHID and FSVC (if necessary), and the Alarm Security Timer (ASTM) to an OHAS DN through the ODNx prompt in LD 15.
- Assign the ASCA Class of Service in LD 10 or LD 11.

If the ASCA Class of Service is assigned, but the telephone is not associated to an OHAS DN, an error message appears on the maintenance TTY when the system tries to redirect the call.

The Alarm Security Timer (ASTM) provides dial tone and interdigit timing for telephones with ASCA Class of Service. The ASTM does not apply to telephones being Forced Out of Service (FSVC).

Dial tone and interdigit timeout – call treatment

A telephone associated with an OHAS DN that receives a dial tone or interdigit timeout intercepts to the OHAS DN specified by the telephone's Off-Hook Interdigit OHAS number (OHID).

Forced Out of Service (FSVC) – call treatment

A digital telephone is considered FSVC when the line is cut, damaged, or unplugged.

The FSVC OHAS treatment applies only to digital telephones. A telephone associated with an OHAS DN that is FSVC intercepts to the OHAS DN specified by the telephone's FSVC number.

Multiple OHAS DNs

The two methods for handling multiple OHAS DNs are zone and event dependent, and are described in the following sections.

Multiple OHAS DNs – zone dependent

OHAS allows for multiple OHAS DNs within a single customer group, enabling the customer to create multiple zones.

For example, a hospital with several locations can define separate OHAS DNs for each location and define each distinct location as a zone. In [Figure 8](#), the hospital has four zones. A separate OHAS DN is defined for each of the four zones. Zone 0 uses OHAS DN 0, Zone 1 uses OHAS DN 1, and so on. Each telephone in Zone 0 defines the OHID and FSVC numbers to 0; each telephone in Zone 1 defines the OHID and FSVC numbers to 1, and so on.

Multiple OHAS DNs – event dependent

OHAS can distinguish between OHID timeout and FSVC events by having a single telephone with separate OHAS DNs for OHID timeout and FSVC events (e.g., a telephone can be defined with a FSVC number 1 and OHID number 2. If a dial tone/interdigit timeout occurs, the telephone intercepts to OHAS DN 2. If the same telephone is FSVC, OHAS DN 1 is notified).

Figure 8
Zone dependent example

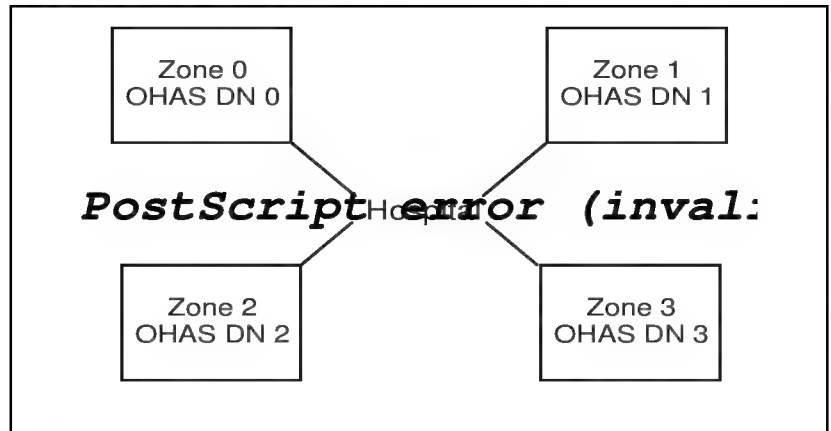
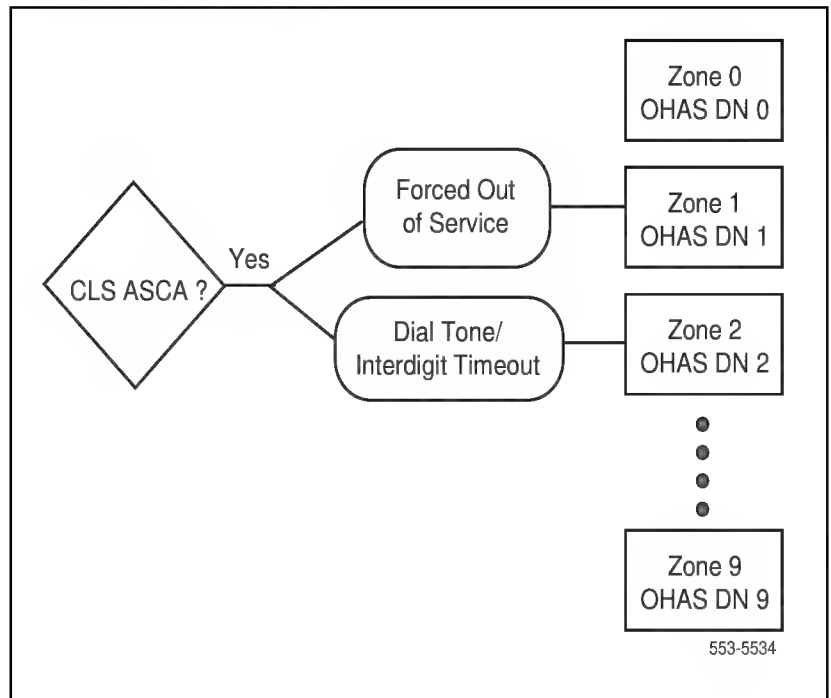


Figure 9
Event dependent example



OHAS TTY display

Every time an OHAS intercept treatment takes place, a message is sent to all maintenance TTY's. This message contains an OHAS message indicator, the originating DN and TN, and a time stamp.

Format			
OHASxxxx	<dn>	l s c u	time stamp
Output example			
OHAS0000	5003	1 0 1 0	04:30:21
Note: The two possible OHAS messages are: OHAS0000OHAS treatment due to dial tone/interdigit timeout, and OHAS0001OHAS treatment due to Forced Out of Service call treatment.			

Operating parameters

OHAS is not supported for attendants or networks.

OHAS intercept treatment for FSVC telephones is provided only for the following telephones:

- the M2009, M2112, and M2018
- the M2317
- the M3000, and
- the M2006, M2216, M2616, M2008, and M2016.

The Alarm Security Timer (ASTM) does not apply to telephones being FSVC.

The timing for recognizing a FSVC condition depends on the type of card that the system is using:

- The Integrated Services Digital Line Cards (ISDLCs) take approximately six seconds to recognize an FSVC condition.
- Peripheral Controller cards take approximately one second to recognize an FSCV condition.

Once a trunk is seized, OHAS treatment does not apply.

Feature interactions

Call Redirection

Call Redirection features defined for telephones with ASCA Class of Service work as currently defined in the system. The Call Redirection features include the following:

- Call Forward All Calls
- Call Forward No Answer
- Call Forward Busy
- Call Forward by Call Type
- Call Pickup, and
- Hunting.

Call Transfer

A telephone receives the OHAS treatment if the telephone has ASCA Class of Service and attempts to transfer a call and the ASTM expires.

Conference

The OHAS line lockout treatment occurs when a telephone associated with an OHAS DN initiates a Conference call and the ASTM expires. Only the Conference initiator receives the OHAS treatment; other conferees remain in Conference. If the initiator of the Conference call presses the Conference key, the OHAS DN is conferenced in with the other conferees.

Electronic Switched Network (ESN) and Trunk Access Codes

If an ESN or Trunk Access Code is dialed, the dial tone/interdigit timer is stopped and the telephone will not recall to the designated OHAS DN after the specified time period has elapsed.

Enhanced Flexible Feature Codes

The Busy Number Redial feature cannot be used on a set with Off-Hook Alarm Security Allowed, since ADL cannot be configured on these sets.

Last Number Redial Stored Number Redial

OHAS treatment may apply to these features if the ASTM expires.

Line Lockout

OHAS treatment occurs when a telephone with ASCA Class of Service receives an interdigit or dial tone timeout. The ASTM is used instead of the dial tone and interdigit timers (DIDT and DIND, respectively) normally used for LLT and DLT line lockout treatment.

Multi-Party Operations

The Off-Hook Alarm Security feature is mutually exclusive with Multi-Party Operations.

No Hold Conference (NHC)

OHAS treatment occurs when a telephone with ASCA Class of Service attempts an NHC call and the ASTM expires. The OHAS DN is conferenced in with the other conferees.

Room Status

OHAS takes precedence over the off-hook detection method of the Room Status feature. If a telephone is defined with the Alarm Security Allowed (ASCA) Class of Service, the off-hook detection method does not work.

System Speed Call Speed Call

OHAS treatment may apply to these features if the ASTM expires. The Alarm Security Timer may expire for the following reasons:

- A dial tone or interdigit timeout occurs while dialing the speed call access code.
- The Speed Call being accessed has an asterisk (*) causing a three-second delay. If the ASTM is three seconds or less, the OHAS intercept treatment may occur.

Feature packaging

Off-Hook Alarm Security is included in base system software.

Feature implementation

LD 15 – Define the Off-Hook Alarm Security (OHAS) Directory Numbers (DNs). OHAS DN must have ASCA Class of Service assigned in LD 10 or LD 11.

Prompt	Response	Description
REQ	NEW, CHG	Add or change.
TYPE	CDB INT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- LLT	(OVF), ATN, OFA	Flexible line lockout treatment.
...		
TYPE	OAS	Gate opener.
OHAS	(NO), YES	(Do not) change OHAS parameters.
The following prompts occur only if OHAS = YES.		
- ODN0	xxx...x	OHAS DN 0.
- ODN1	xxx...x	OHAS DN 1.
- ODN2	xxx...x	OHAS DN 2.
- ODN3	xxx...x	OHAS DN 3.
- ODN4	xxx...x	OHAS DN 4.
- ODN5	xxx...x	OHAS DN 5.
- ODN6	xxx...x	OHAS DN 6.
- ODN7	xxx...x	OHAS DN 7.
- ODN8	xxx...x	OHAS DN 8.
- ODN9	xxx...x	OHAS DN 9.
- ASTM	1-(30)-63	The timer applies to all OHAS DN and is programmable in one-second increments.

LD 10 – Assign Alarm Security Allowed (ASCA) Class of Service.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	500	Telephone type.
CLS	(ASCD), ASCA	Alarm Security (denied) allowed. When ASCA is assigned, the OHAS DN must be defined in LD 15.
OHID	(0)-9	Off-Hook Interdigit OHAS number.

LD 11 – Assign Alarm Security Allowed (ASCA) Class of Service.

Prompt	Response	Description
REQ	NEW, CHG	Add or change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
CLS	(ASCD), ASCA	Alarm Security (denied) allowed. When ASCA is assigned, the OHAS DN must be defined in LD 15.
OHID	(0)-9	Off-Hook Interdigit OHAS number.
FSVC	(0)-9	FSVC OHAS DN number. The FSVC prompt is given only to digital telephones.

Feature operation

No specific operating procedures are required to use this feature.

Off-Premise Extension

The Off-Premise Extension (OPX) feature allows a single line telephone serving as an extension to be located away from the customer premises. The loop limit is 1400 ohms to the station or equivalent long-line circuit interface. Distance varies depending on the gauge of wire used.

Refer to Northern Telecom Publication *500/2500 line cards description and operation* (553-2201-183) for additional information.

Operating parameters

The Off-Premise Extension (OPX) feature applies only to single line telephones. A QPC192 line circuit pack must be equipped.

Feature interactions

Refer to *500/2500 line cards description and operation* (553-2201-183).

Feature packaging

Off-Premise Extension (OPX) is included in base system software.

Feature implementation

LD 10 – Add or change Off-Premise Extension Class of Service for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(ONP), OPX	Telephone is an on-premises or off-premises extension.

Feature operation

There are no specific procedures required to operate this feature.

On-Hook Dialing

The On-Hook Dialing feature enables a Meridian 1 proprietary telephone user to make a call without lifting the handset. Signaling tones and the voice of the called party are heard over the loudspeaker. For two-way communication, the user must lift the handset or activate the Handsfree unit if equipped.

Operating parameters

The On-Hook Dialing feature does not apply to analog (500/2500 type) telephones.

Feature interactions

There are no interactions with other features.

Feature packaging

On-Hook Dialing is included in base system software.

Feature implementation

No change to existing configuration is required for the On-Hook Dialing feature.

Feature operation

No specific operating procedures are required to use this feature.

Optional Outpulsing Delay

The Optional Outpulsing Delay (OOD) feature increases to three seconds the Start of Dialing Delay used for automated dialing on loop start Central Office (CO) trunks. This feature is required for Meridian 1 Option 11C Compact connection in some countries.

Operating parameters

There are no feature requirements.

Feature interactions

Features that automatically dial digits onto a loop start CO trunk are provided with an additional delay. These features include the following:

- Stored Number Redial
- Autodial
- Speed Call
- Call Forward All Calls
- Basic Alternate Route Selection/Network Alternate Route Selection (BARS/NARS)
- System Speed Call
- Network Speed Call, and
- Flexible Hot Line.

Feature packaging

Optional Outpulsing Delay (OOD) package 79 has no feature package dependencies.

Feature implementation

No change to existing configuration is required for the Optional Outpulsing Delay feature.

Feature operation

No specific operating procedures are required to use this feature.

Overlay Cache Memory

Overlay Cache Memory uses Protected Data Storage (PDS) as a cache area for storing overlays loaded from disk. The cache memory overlays are accessed much faster than those on disk, reducing the load time to approximately one second.

A maximum of 32 overlays can reside in Overlay Cache Memory at one time. The CACH prompt in LD 17 defines the number of cache memory buffers allocated in protected memory. Each overlay resides in a buffer. A zero entry deactivates this feature and requires all overlays to be loaded from disk.

Each buffer requires 19K of Protected Data Storage (PDS). If there is insufficient memory to store the number of buffers requested, a warning message follows the LD 17 prompt sequence. The message indicates that more memory is required to store all the caches requested.

If a small number of cache memory buffers are allocated, frequently used overlays may be removed from protected memory by seldom used overlays. The PRTY prompt in LD 17 sets an overlay priority flag. A priority flag prevents the removal of an overlay from cache memory. The number of priority flags set cannot exceed the number of cache memory buffers specified.

When an LD xx command is entered, the cache memory is checked for the requested overlay. If the requested overlay is in cache memory, its data portion is rapidly copied to the regular overlay area.

A requested overlay that is not in cache memory is loaded from the disk into the normal overlay area and simultaneously stored into a cache memory buffer, if one is available. If one is not available, the new overlay overwrites another in the cache memory.

If an overlay is loaded from disk and no unused buffer area exists, the overlay used longest ago without its priority flag set is removed and replaced by the new overlay.

Operating parameters

If the feature is deactivated with a zero (0) entry at the CACH prompt in LD 17, no cache memory exists and all overlays are loaded from disk.

Cache memory is not affected by a system initialization. After a system initialization, it is not necessary to reload overlays from the disk.

Each buffer requires 19K of PDS. The number of cache memory buffers allocated to the system is limited by the availability of spare memory. If enough memory exists, a maximum of 32 cache memory buffers is allowed. Each buffer stores one overlay.

The number of overlay priorities (PRTY) that can be set is dependent upon Release.

- Release 18 - The number of overlay priorities cannot exceed the number of cache memory buffers allocated.
- Release 19 and 20 - The number of cache memory buffers (CACH) allocated must exceed the number of overlay priorities (PRTY) by three. (CACH = PRTY +3)
- Release 21 and later - The number of cache memory buffers (CACH) allocated must exceed the number of overlay priorities (PRTY) by four. (CACH = PRTY+4)

To load an overlay from disk, use the command LD xx D. This is necessary for the system to determine which overlay to read. The LD xx D command loads the overlay from disk and overwrites the same overlay existing in cache memory.

Using the LD xx D command to force load an overlay from disk does not simultaneously support the peripheral download SUSP command.

When overlays are stored in cache memory, the ENLT and DIST commands are not supported.

The system automatically stores and retrieves overlays from cache memory. If the cache area is full when a new overlay is requested, the overlay gone unused the longest without a priority flag set is removed and replaced by the new overlay. Daily routines and background-loaded overlays are not stored in cache memory.

The Overlay Cache Memory feature does not apply to Option 51C, 61C, 81, and 81C systems.

Conversion and upgrades

Due to memory requirements, installing a new issue of software or the same issue with additional features may reduce the number of cache buffers that can be allocated. A warning message indicates this reduction has occurred.

If this reduction causes the number of overlay priorities to exceed the maximum number of cache buffers, the overlay priorities are reduced to equal the number of cache buffers. The priorities are automatically reduced by beginning with the highest overlay number and working downward.

Feature packaging

Overlay Cache Memory is included in the base system software.

Feature implementation

LD 17 – Change system configuration record.

Prompt	Response	Description
REQ	CHG	Change data.
TYPE	CFN OVLY	Configuration Record. Gate opener.
OVLY	YES	Change overlay area.

- CACH	(0), 2-32	Number of overlay buffers held in cache memory. Entering 0 disables the feature.
- PRTY	xx xx xx xx...	Set priority for the stored overlays. Priority can be set only for the number of overlays specified in CACH. xx = the overlay number. An X preceding the number deletes the priority flag for that overlay.

Feature operation

No specific operating procedures are required to use this feature.

Override

The Override feature provided in base system software allows a user to enter into an established connection. A warning tone notifies the talking parties that a third party is about to enter the conversation. The warning tone is an initial one-second burst, followed by a 256 millisecond burst repeated every 16 seconds. The Override feature can be used after a user has dialed a busy Directory Number (DN).

Forced Camp-On and Priority Override

The Forced Camp-On and Priority Override features provide enhancements to the basic Camp-On feature. Forced Camp-On is similar to the regular Station-to-Station Camp-On, except that it can be done without an internal or external call on hold. Forced Camp-On is activated automatically (if Automatic Forced Camp-On is defined); or it can be activated manually using the Enhanced Override (EOVR) key on Meridian 1 telephones or the Enhanced Override Flexible Feature Code on analog (500/2500 type) telephones.

Priority Override allows an established call to be broken into and another call to be presented to the desired party. Before break-in occurs, a warning tone is given to all parties involved in the established call. The telephone performing the override must have a priority level equal to or higher than the telephone being overridden. Priority Override is activated by dialing the Override Flexible Feature Code on analog (500/2500 type) telephones, or by pressing the Override key (OVR) on Meridian 1 telephones.

For detailed information on the Forced Camp-On and Priority Override features, refer to the Camp-On, Forced, and Override, Enhanced feature descriptions contained in this document.

Operating parameters

On Meridian 1 proprietary telephones, a separate Override key must be assigned. An associated lamp is not required.

On analog (500/2500 type) telephones, a Flexible Feature Code (FFC) is required to override a call.

Override cannot be used to enter an established connection if any party (telephone or trunk) has Warning Tone Denied Class of Service. In this case, overflow tone is heard.

The system must have a conference loop.

Feature interactions

Attendant Break-In

When one Meridian 1 telephone has overridden an existing call to establish a Conference call, Break-In is temporarily denied. The attendant is notified via the Override tone.

Automatic Redial (ARDL)

An ARDL call cannot be overridden. This is done to avoid creating a conference when a tone detector is involved.

Conference

Override cannot be used to enter a Conference call.

Enhanced Override

If Priority Override is equipped, it replaces Override when using the OVR key or OVRD FFC. However, Override can be simulated by using the default PLEV, 2, for all trunk routes and sets.

Phantom TN's Call Forward

Call Forward cannot be overridden on phantom TNs. The overflow tone occurs if an Override is attempted.

Priority Override

If Priority Override is equipped, it replaces Override when the OVR key or OVRD FFC is used. However, Override can be simulated by using the default PLEV, 2, for all trunk routes and sets.

Feature packaging

Override is included in base system software.

For analog (500/2500 type) telephones, Flexible Feature Code (FFC) package 139 must be equipped.

Forced Camp-On/Priority Override (POVR) is package 186.

Feature implementation

LD 10 – Allow Override for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(OVDD), OVDA (XFD), XFA (WTA), WTD	Override (denied) allowed for this telephone. Transfer (denied) allowed. Warning Tone (allowed) denied (WTA is required to be overridden).

LD 11 – Add or change Override for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.

CLS	(WTA), WTD	Warning Tone (allowed) denied (WTA is required to be overridden).
KEY	xx OVR	Override key (must be key 34 for the M3000).

LD 14 – Define Warning Tone Allowed for trunks to permit Override.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaa	Trunk type.
TN	c u	Terminal Number.
CLS	(WTA), WTD	Warning Tone (allowed) denied (WTA is required to be overridden).

LD 57 – Configure Flexible Feature Code (FFC) for Override on an analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Flexible Feature Codes.
CUST	0	Customer number.
CODE	OVRD	Change Override access code.
OVRD	xxxx	Override access code.

Feature operation

To override a call in progress from a Meridian 1 proprietary telephone:

- 1** Dial the number. You hear a busy tone.
- 2** Press **Override**. Everyone hears a one-second tone burst.
- 3** You are connected to the call.

To cancel Override from a Meridian 1 proprietary telephone:

- 1** Press **RLs** or hang up.
- 2** You are disconnected. The original call remains active.

To override a call in progress from an analog (500/2500 type) telephone:

- 1** Dial the number. You hear busy tone.
- 2** Flash the switchhook or press **LINK**.
- 3** Dial the Flexible Feature Code (FFC) for Override. Everyone hears a one-second tone burst.
- 4** You are connected to the call.

To cancel Override from an analog (500/2500 type) telephone:

- 1** Press **RLs** or hang up.
- 2** You are disconnected. The original call remains active.

Override, Enhanced

The use of the Forced Camp-On and Priority Override features together results in Enhanced Override (EOVR).

Forced Camp-On

Forced Camp-On allows a call to be camped on and a warning to be given before the Priority Override operation. It differs from normal Camp-On in that both internal and external calls can be camped on, rather than just external calls as with the Camp-On feature. The Forced Camp-On may be automatic or manual. The manual operation requires the use of the Enhanced Override (EOVR) feature.

Forced Camp-On can be used as a feature by itself or in conjunction with Priority Override. The combination of the two features is referred to as Enhanced Override (EOVR).

For manual Forced Camp-On on an analog (500/2500 type) telephone, the user has to dial the EOVR Flexible Feature Code (FFC), while a Meridian 1 proprietary telephone user has to use the EOVR key.

A second operation of the EOVR key or FFC executes Enhanced Override.

Forced Camp-On is similar to Station-to-Station Camp-On, except that Forced Camp-On can be done with either no call on hold or an external or internal call on hold. It can be done automatically or manually, which is determined by the response to the Automatic Forced Camp-On (AFCO) prompt in LD 15.

For manual operation, once a busy telephone has been reached, the first depression of the EOVR key or the first dialing of the EOVR FFC attempts Forced Camp-On. If successful, Forced Camp-On introduces Camp-On tone into the connection. If unsuccessful, overflow (fast busy) tone is returned to the party attempting the Forced Camp-On.

For Forced Camp-On to be allowed, all other methods of call termination must have been tried, and the last one must be Camp-On. If Station-to-Station Camp-On or Automatic Forced Camp-On has occurred, or Forced Camp-On has been excluded by the new telephone options, then the first depression of the EOVR key or first dialing of the EOVR FFC introduces Enhanced Override. If, however, Forced Camp-On is denied by existing Camp-On restrictions, Enhanced Override is also denied.

Priority Override

The Priority Override (POVR) feature allows users to break in to an established connection. To do this, analog (500/2500 type) telephone users use the OVRD Flexible Feature Code (FFC), and Meridian 1 proprietary telephone users use the Override (OVR) key before Camp-On.

The Priority Override Level (PLEV) restrictions apply to both Enhanced and Priority Override.

For Priority Override, the overriding telephone must have a Priority Override Level (PLEV) greater than or equal to the PLEV of the telephone or trunk to be overridden.

For analog (500/2500 type) telephone, a recall followed by dialing the Priority Override FFC, (Override FFC with Priority Override package 186 equipped), breaks into the connection and establishes a conference between all three parties and sends an override tone. For a Meridian 1 proprietary telephone, the OVR key is used in place of the FFC.

In order for Priority Override to be allowed, all telephones and trunks involved must have Warning Tone Allowed (WTA) Class of Service. Each telephone and trunk route (TIE, DID, and COT) is assigned a PLEV where:

PLEV 0	Indicates that this telephone or route cannot be overridden; if assigned to a telephone, the telephone cannot override.
PLEV 1	Indicates that this telephone or route can be overridden; if assigned to a telephone, the telephone cannot override.
PLEV 2	Indicates that this telephone or route can be overridden by telephones assigned level 2 through level 7; if assigned to a telephone, the telephone can override level 1 and level 2.
PLEV 3-6	Similar to level 2, indicates that this telephone or route can be overridden by telephones assigned an equal or higher level; if assigned to a telephone, the telephone can override lower and equal levels, except level 0.
PLEV 7	Indicates that this telephone or route can be overridden by another level 7 telephone only; if assigned to a telephone, the telephone can override level 1 through level 7.

Several combinations of the Forced Camp-On and Priority Override are highlighted in the following list:

- Responding to the Automatic Forced Camp-On (AFCO) prompt in LD 15 with “NO,” configuring Meridian 1 proprietary telephones with only Override (OVR) keys, and defining the Override (OVRD) Flexible Feature Code (FFC) disallows the use of Forced Camp-On.
- Responding to the Automatic Forced Camp-On (AFCO) prompt in LD 15 with “NO” and setting the Priority Level (PLEV) to 0 and the Camp-On Classes of Service to Camp-On From Another Telephone Denied (CPFD) and Camp-On To Another Telephone Denied (CPTD) gives manual Camp-On only.
- Configuring the EOVR FFC for analog (500/2500 type) telephone users and equipping Meridian 1 proprietary telephones with EOVR keys gives the users the ability to use only Priority Override (via OVR key or OVRD FFC) or Forced Camp-On followed by Priority Override (pressing the EOVR key twice or using EOVR FFC).
- Responding to the Automatic Forced Camp-On (AFCO) prompt in LD 15 with “YES,” configuring Meridian 1 proprietary telephones with only Override (OVR) keys, and defining the Override (OVRD) Flexible Feature Code (FFC) automatically applies Forced Camp-On in situations where it is allowed, and allows the use of the OVR key and FFC to implement Priority Override.

- Using an EOVR key or FFC with a response of “YES” to the AFCO prompt in LD 15 simulates the Override (OVR) key or FFC unless Forced Camp-On was denied initially, in which case the Forced Camp-On would be re-attempted.

The following table summarizes the various combinations:

	AFCO = NO	AFCO = YES
OVR FFC or key	Attempts Priority Override.	Attempts Priority Override whether Forced Camp-On occurred or not.
EOVR FFC or key	First use attempts Forced Camp-On, unless station is camped on, then Priority Override is attempted. Second use attempts Priority Override.	If automatic Forced Camp-On was denied, re-attempts Forced Camp-On; otherwise Priority Override is attempted.

Operating parameters

The Flexible Feature Codes (FFC) package 139 must be equipped for Forced Camp-On and Priority Override to be available from analog (500/2500 type) telephones.

For analog (500/2500 type) telephone activation, the Multi-Party Operations (MPO) package 141 must be equipped, with the “YES” as the response to the RALL prompt in LD 15 to ensure that register recalls are required before dialing control digits. The OVRD and EOVR FFC’s defined must not start with the same digit as one of the control digits. The control digits are defined in LD 15 and are printed as part of the Customer Data Block (LD 21).

If Priority Override is equipped, it replaces Override when the user uses the OVR key or OVRD FFC. However, Override can be simulated by using the default value, 2, for all trunk routes and telephones.

Telephones or trunks involved in any of the following cannot be camped on or overridden:

- Non-established call

- Conference call
- Attendant call
- Attendant call via Centralized Attendant Service (CAS), Primary Rate Interface (PRI), or Integrated Services Digital Network (ISDN) trunk
- Make Set Busy
- Do Not Disturb
- Automatic Call Distribution (ACD) call
- Operator Call Back
- Hold
- Data call
- Release Link call, or
- Parked call.

Call Forward and Hunting take precedence over Call Waiting. If Call Waiting is allowed, Camp-On is not attempted. If Call Waiting is not allowed, Station-to-Station Camp-On is automatically attempted. If this succeeds, Priority Override can still follow. If Camp-On fails because there is no external call, Forced Camp-On and Priority Override may still work. However, if Camp-On fails because of other limitations, Forced Camp-On and Priority Override will also not work.

Even though Camp-On will still function when Warning Tone Denied (WTD) Class of Service is defined, Forced Camp-On and Priority Override require Warning Tone Allowed (WTA) Class of Service.

Priority Override is not allowed on analog (500/2500 type) telephones unless the Override Allowed (OVDA) Class of Service is defined. This Class of Service is also used for Override. This Class of Service does not affect Camp-On.

Camp-On requires an external call on hold. Forced Camp-On can be done without a call on hold, or with both internal or external calls on hold.

Trunks cannot perform Priority Override. They also cannot be overridden unless they are the unwanted party of a connection. It is for this exception that trunks are given a Priority Level.

New Camp-On Classes of Service (Camp-On From Another Telephone Allowed [CPFA], Camp-On From Another Telephone Denied [CPFD], Camp-On To Another Telephone Allowed [CPTA], and Camp-On To Another Telephone Denied [CPTD]) apply to Forced Camp-On and Automatic Forced Camp-On (AFCO) only. They do not apply to Station or Attendant Camp-On.

If a telephone is denied Forced Camp-On by Class of Service, Priority Override may still be attempted.

Feature interactions

Attendant calls

Telephones involved in attendant calls cannot be force camped on or priority overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-On or Priority Override.

Automatic Call Distribution (ACD)

Telephones involved in ACD calls cannot be force camped on or priority overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-On or Priority Override.

Camp-On

Station-to-Station Camp-On and Attendant Camp-On are not affected by Forced Camp-On or Priority Override. The new Classes of Service (Camp-On From Another Telephone Allowed [CPFA], Camp-On From Another Telephone Denied [CPFD], Camp-On To Another Telephone Allowed [CPTA], and Camp-On To Another Telephone Denied [CPTD]) affect only Forced Camp-On. The Station Camp-On (SCMP) package 121 is required to return busy tone instead of ringback tone to the party camping on.

Conference calls

Telephones involved in conference calls cannot be force camped on or priority overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-On or Priority Override.

Data calls

Data calls have Warning Tone Denied (WTD) Class of Service, and cannot be force camped on or priority overridden. Overflow (fast busy) tone is returned to telephones attempting Forced Camp-On or Priority Override.

Digit Display

The Digit Display of the telephones being overridden changes to the Directory Number (DN) of the telephone overriding once Priority Override is accomplished.

Do Not Disturb (DND)

Telephones with DND enabled cannot be force camped on or priority overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-On or Priority Override.

Hold

Neither held calls nor telephones with calls on hold may be camped on or overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-On or Priority Override.

Make Set Busy (MSB)

Telephones with MSB active cannot be force camped on or priority overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-On or Priority Override.

Multi-Party Operations (MPO)

With Priority Override (POVR) equipped, there is a slight change in Multi-Party Operations functionality. When a consultation call is made without POVR equipped, and the telephone being called is busy, a recall returns to the party on hold without dialing a control digit. However, if POVR is equipped, a control digit must be dialed. Any control digit releases the busy call and returns to the call on hold.

Operator Call Back

Telephones involved in an Operator Call Back call or Toll Operator Break-In cannot be force camped on or priority overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-On or Priority Override.

Override

If Priority Override is equipped, it replaces Override when using the OVR key or OVRD FFC. However, Override can be simulated by using the default PLEV, 2, for all trunk routes and telephones.

Ring Again

Ring Again (RGA) is the only other feature currently available once a busy telephone has been encountered. RGA is not allowed on a analog (500/2500 type) telephone making a Multi-Party Operations consultation call.

Feature packaging

To provide the Enhanced Override capabilities, the following packages are required:

- Station Camp-On (SCMP) package 121
- Flexible Feature Codes (FFC) package 139
- Multi-Party Operations (MPO) package 141, and
- Priority Override/Forced Camp-On (POVR) package 186.

Feature implementation

LD 15 – Configure the customer for Automatic Forced Camp-On and Station Camp-On tone.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	CDB MPO	Customer Data Block. Gate opener.
...		
- AFCCO	(NO), YES	Automatic Forced Camp-On. Enter YES if Forced Camp-On is to be applied automatically. Enter NO if Forced Camp-On is to be applied manually.
TYPE	FTR	Gate opener.

...		
- STCB	(NO), YES	Station Camp-On Busy tone. Enter NO if Busy Tone is not to be given to the transferring (controlling) party when the desired station is busy. Enter YES if Busy Tone is to be given to the transferring (controlling) party when the desired station is busy.

LD 57 – Configure Override and Enhanced Override FFCs.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	FFC	Flexible Feature Codes.
...		
CODE	x...x	Code to be programmed. Where x...x may be one of the following: OVRD Override (OVRD is used for Priority Override when the Priority Override [POVR] package 186 is equipped.) EOVR Enhanced Override (Is programmable only when the Priority Override [POVR] package 186 is equipped.)
X...X	y...y	The user is prompted with X...X, where X...X is the FFC code entered in response to the CODE prompt. y...y is a one-to-seven character input that the user must dial to use the FFC. Valid inputs are digits 0 through 9, asterisk (*) and octothorpe (#).

LD 10 – Configure Analog (500/2500 type) telephones for Forced Camp-On, Priority, and Enhanced Override.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	500	Telephone type.
...		

CLS	(CPFA), CPFD (CPTA), CPTD OVDA WTA	Class of Service. Forced Camp-On from another telephone to this telephone (allowed) denied. Forced Camp-On to another telephone from this telephone (allowed) denied. Override allowed. Warning Tone allowed.
...		
PLEV	0-(2)-7	Priority Override Level 0 Indicates that this telephone cannot be overridden or override. 1 Indicates that this telephone can be overridden but cannot override. 2 Indicates that this telephone can be overridden by telephones assigned level 2 through level 7 and that the telephone can override level 1 and level 2. 3-6 Similar to level 2, indicates that this telephone can be overridden by telephones assigned an equal or higher level and that it can override lower and equal levels, except level 0. 7 Indicates that this telephone can be overridden by another level 7 telephone only and that it can override level 1 through level 7.

LD 11 – Configure Meridian 1 proprietary telephones for Forced Camp-On, Priority, and Enhanced Override.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
...		

CLS	(CPFA), CPFD (CPTA), CPTD WTA	Class of Service. Forced Camp-On from another telephone to this telephone (allowed) denied. Forced Camp-On to another telephone from this telephone (allowed) denied. Warning Tone allowed.
...		
PLEV	0-(2)-7	Priority Override Level. 0 Indicates that this telephone cannot be overridden or override. 1 Indicates that this telephone can be overridden but cannot override. 2 Indicates that this telephone can be overridden by telephones assigned level 2 through level 7 and that the telephone can override level 1 and level 2. 3-6 Similar to level 2, indicates that this telephone can be overridden by telephones assigned an equal or higher level and that it can override lower and equal levels, except level 0. 7 Indicates that this telephone can be overridden by another level 7 telephone only and that it can override level 1 through level 7.
...		
KEY	xx OVR xx EOVR	Define keys. Override (If Priority Override [POVR] package [186] is equipped, the OVR key is used for Priority Override.) Enhanced Override (Allowed to be programmed only if Priority Override [POVR] package [186] is equipped.)

LD 16 – Configure Route for Forced Camp-On, Priority, and Enhanced Override.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	RDB	Route Data Block
...		
PLEV	0-(2)-7	Priority Override Level. 0 Cannot be overridden. 1-7 Can be overridden by a telephone with a Priority Level that is equal to or greater than the level assigned to this route. Note: Trunks cannot override, but the levels of all parties in a connection are examined to determine if the connection may be overridden.

LD 14 – Configure trunks for Forced Camp-On, Priority, and Enhanced Override.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
...		
CLS	WTA	Class of Service. Warning Tone Allowed.

Feature operation

Forced Camp-On and Priority Override can be used when making either a simple call or consultation call (i.e., having a call on hold while calling another party) call. The following feature operation descriptions use telephone A (analog (500/2500 type) telephone) or telephone E (a Meridian 1 proprietary telephone) to call telephone B, which is connected to party C. Party D is used as the party on hold when either A or E is making a consultation call.

The telephones are configured as follows:

- 1** Telephone A is an analog (500/2500 type) telephone with Warning Tone Allowed (WTA) and Override Allowed (OVDA) Classes of Service.
- 2** Telephone B has Warning Tone Allowed (WTA) Class of Service.
- 3** Party C has Warning Tone Allowed (WTA) Class of Service and can be any telephone type or a Direct Inward Dial (DID), TIE, or Central Office (Public Exchange) (COT) trunk.
- 4** Party D can be any telephone or trunk.
- 5** Telephone E is a Meridian 1 proprietary telephone with Warning Tone Allowed (WTA) Class of Service and both an Override (OVR) and Enhanced Override (EOVR) key equipped.

For examples 1 to 4, assume the following:

- 1** Telephones A and E have a Priority Override Level (PLEV) of greater than “1”.
- 2** Telephones A and E both have Camp-On From Another Telephone Allowed (CPFA) Class of Service.
- 3** Telephone B and party C both have PLEVs greater than “0”, but less than or equal to those of telephones A and E.
- 4** Both telephone B and party C are involved in a simple call, not a conference call.
- 5** Telephone B has Camp-On To Another Telephone Allowed (CPTA) Class of Service.
- 6** Call Forward, Hunting, and Call Waiting are not in use.

Examples 1 to 4 are done with various combinations of Forced Camp-On and Priority Override. Forced Camp-On may be denied by responding “NO” to the Automatic Forced Camp-On (AFCO) prompt in LD 15, by configuring telephone E with only an Override (OVR) key and defining only the Override (OVRD) FFC in LD 57, or by setting the Classes of Service for both telephone A and E to Camp-On To Another Telephone Denied (CPTD) and Camp-On From Another Telephone Denied (CPFD). Both of these methods of disabling the Forced Camp-On feature do not affect the Priority Override feature. However, any conditions that would prevent Forced Camp-On from occurring also prevent Priority Override.

In the following feature operation descriptions, the term “recall” refers to a register recall, which may be performed in a number of different ways. Some typical examples are:

- Flashing the switchhook. This is the equivalent of hanging up the handset and picking it back up. This on hook, off hook action is performed in a time less than what the system would consider to be a valid disconnect.
- Pressing the flash or LINK button if equipped.

The Camp-On tone is always provided for Forced Camp-On, since Warning Tone Allowed (WTA) Class of Service is a prerequisite. This tone can be a buzz for Meridian 1 proprietary telephones or a single burst of tone for an analog (500/2500 type) telephones if the customer option Periodic Camp-On Tone Denied (CTD) is selected in LD 15. If the customer option Periodic Camp-On Tone Allowed (CTA) is selected in LD 15, the Camp-On Tone as defined in the Flexible Tones and Cadences (FTC) LD 56 in response to the CAMP prompt will be used. The Priority Override tone used is the same tone as used for Override; this tone is defined in response to the OVRD prompt in the FTC LD 56.

While camping on, the party attempting the Camp-On, either telephone A or E, receives ringback if the Station Camp-On (SCMP) package 121 is not equipped, or receives either ringback or busy tone, as defined by the response to the Station Camp-On Busy tone (STCB) prompt in LD 15 if the SCMP package is equipped.

Override will take place on any established call when the Flexible Feature Code (FFC) is dialed or the Override (OVR) key is pressed. That means if telephone A calls telephone B while telephone B is busy and telephone B disconnects from that call and is established on another call when telephone A activates Override, the new call will be overridden.

Example 1
Enhanced Override with an Analog (500/2500 type) telephone

With automatic Forced Camp-On turned off; Response to AFCO in LD 15 was "NO":

ACTION	RESPONSE
1 B and C are connected in a simple call.	
2 A dials B.	A receives busy tone.
3 A performs a recall.	A receives special dial tone (SDT).
4 A dials OVRD FFC to attempt Priority Override.	If telephone B or C has disconnected, telephone A receives overflow (fast busy) tone. Otherwise, a conference is established between A, B, and C with Override tone given.
– or –	
a) A dials EOVR FFC to attempt Forced Camp-On.	If telephone B or C has disconnected, telephone A receives overflow (fast busy) tone. Otherwise B receives Camp-On tone and A receives ringback or busy tone depending on the options equipped. A is manually forced camped on to B.
b) B disconnects from the call.	Telephone A rings telephone B.
– otherwise –	
b) A performs a recall.	A receives SDT.
c) A dials EOVR FFC to attempt Priority Override.	If telephone B or C has disconnected, telephone A receives overflow (fast busy) tone. Otherwise, a conference is established between A, B, and C with Override tone given.
5 If any party disconnects...	A simple two-party call is established.

With automatic Forced Camp-On turned on; response to AFCO in LD 15 was "YES":

ACTION	RESPONSE
1 B and C are connected in a simple call.	
2 A dials B.	A attempts Forced Camp-On to B.

- | | |
|--|--|
| a) If Forced Camp-On was successful... | A receives ringback or busy tone depending on the options equipped. A is automatically forced camped on to B. |
| b) B disconnects. | A rings B. |
| – <i>otherwise</i> – | |
| a) A performs a recall and dials the OVRD or EOVR FFC to attempt Priority Override. | If telephone B or C has disconnected, telephone A receives overflow (fast busy) tone. Otherwise, a conference is established between A, B, and C with Override tone given. |
| – <i>or</i> – | |
| a) If Forced Camp-On was unsuccessful due to Class of Service restrictions... | A receives busy tone. |
| b) A performs a recall and dials OVRD or EOVR FFC to attempt Priority Override. | If telephone B or C has disconnected, telephone A receives overflow (fast busy) tone. Otherwise, a conference is established between A, B, and C with Override tone given. |
| – <i>or</i> – | |
| a) If Forced Camp-On was unsuccessful due to other limitations, then Priority Override is also restricted. | A receives busy tone. |
| b) A performs a recall and dials OVRD or EOVR FFC to attempt Priority Override. | A receives overflow (fast busy) tone. |

Example 2**Enhanced Override with a Meridian 1 proprietary telephone**

With automatic Forced Camp-On turned off; response to AFCC in LD 15 was "NO":

ACTION	RESPONSE
1 B and C are connected in a simple call.	
2 E dials B.	E receives busy tone.
3 E presses OVR key to attempt Priority Override.	If telephone B or C has disconnected, telephone E receives overflow (fast busy) tone. Otherwise, a conference is established between E, B, and C with Override tone given.
– or –	
a) E presses EOVR key to attempt Forced Camp-On.	If telephone B or C has disconnected, telephone E receives overflow (fast busy) tone. Otherwise, B receives Camp-On tone and E receives ringback or busy tone depending on the options equipped. E is manually forced camped on to B.
b) B disconnects from the call.	Telephone E rings telephone B.
– otherwise –	
b) E presses EOVR key to attempt Priority Override.	If telephone B or C has disconnected, telephone E receives overflow (fast busy) tone. Otherwise, a conference is established between E, B, and C with Override tone given.
4 If any party disconnects...	A simple two-party call is established.

With automatic Forced Camp-On turned on; response to AFCC in LD 15 was "YES":

ACTION	RESPONSE
1 B and C are connected in a simple call.	
2 E dials B.	E attempts Forced Camp-On to B.
a) If Forced Camp-On was successful...	E receives ringback or busy tone depending on the options equipped. E is automatically forced camped on to B.
b) B disconnects.	E rings B.

– otherwise –

a) E presses OVR or EOVR key to attempt Priority Override.	If telephone B or C has disconnected, telephone E receives overflow (fast busy) tone. Otherwise, a conference is established between E, B, and C with Override tone given.
--	--

– or –

a) If Forced Camp-On was unsuccessful due to Class of Service restrictions...	E receives busy tone.
---	-----------------------

b) E presses OVR or EOVR key to attempt Priority Override.	If telephone B or C has disconnected, telephone E receives overflow (fast busy) tone. Otherwise, a conference is established between E, B, and C with Override tone given.
--	--

– or –

a) If Forced Camp-On was unsuccessful due to other limitations, Priority Override is also restricted.	E receives busy tone.
---	-----------------------

b) E presses OVR or EOVR key to attempt Priority Override.	A receives overflow (fast busy) tone.
--	---------------------------------------

Example 3**Enhanced Override from a consultation call with an Analog (500/2500 type) telephone**

With automatic Forced Camp-On turned off; Response to AFCO in LD 15 was "NO"; Station-to-Station Camp-On is denied or Station-to-Station Camp-On is equipped and D is a station; Multi-Party Operation active:

ACTION	RESPONSE
1 A is connected to D and B and C are connected in a simple call.	
2 A performs a recall.	A receives special dial tone (SDT). D is held.
3 A dials B.	A receives busy tone.
4 A releases.	Treated as misoperation of call transfer.
<i>– or –</i>	
a) A performs a recall and dials any control digit.	A releases from B and returns to D.
<i>– or –</i>	
a) A performs a recall.	A receives control dial tone.
b) A dials OVRD FFC to attempt Priority Override.	Conference is established between A, B, and C with override tone given.
<i>– or –</i>	
a) A performs a recall.	A receives control dial tone.
b) A dials EOVR FFC to attempt Forced Camp-On.	B receives Camp-On tone. A receives ringback or busy tone depending on the options equipped. A is manually forced camped on to B.
<i>– if –</i>	
c) A releases...	D is camped on to B.
<i>– if –</i>	
c) B disconnects.	A rings B.
<i>– if –</i>	
c) A performs a recall and dials any control digit.	A releases from B and returns to D.
<i>– if –</i>	

A performs a recall and dials the POVR FFC again.

If telephone B or C has disconnected, telephone A receives overflow (fast busy) tone. Otherwise, a conference is established between A, B, and C with Override tone given.

With automatic Forced Camp-On turned off; response to AFCC in LD 15 was "YES"; Station-to-Station Camp-On is allowed and D is an external call; Multi-Party Operation active:

ACTION

RESPONSE

- 1 A is connected to D and B and C are connected in a simple call.
- 2 A performs a recall.
- 3 A dials B.
- 4 A releases.
- or –
- B disconnects
- or –
- A performs a recall and dials any control digit.
- or –
- a) A performs a recall.
- b) A dials OVRD or EOVR to attempt Priority Override.

A receives special dial tone (SDT). D is put on hold.

B receives Camp-On tone. A receives ringback or busy tone depending on the options equipped. A is automatically forced camped on to B.

D is camped on to B.

A rings B.

A releases from B and returns to D.

A receives control dial tone.

If telephone B or C has disconnected, telephone A receives overflow (fast busy) tone. Otherwise, a conference is established between A, B, and C with Override tone given.

Example 4**Enhanced Override from a consultation call with a Meridian 1 proprietary telephone**

With Automatic Forced Camp-On turned off; Response to AFCO in LD 15 was "NO"; Station-to-Station Camp-On is denied or Station-to-Station Camp-On is equipped and D is a station; Multi-Party Operation active:

ACTION	RESPONSE
1 E is connected to D and B and C are connected in a simple call.	
2 E presses Conference or Transfer key.	E receives dial tone. D is put on hold.
3 E dials B.	E receives busy tone.
4 E releases or presses Conference or Transfer key again.	Treated as misoperation of call transfer.
<i>– or –</i>	
E presses the DN key that D is held on.	E is reestablished with D.
<i>– or –</i>	
E presses OVR key to attempt Priority Override.	Conference is established between E, B, and C with Override tone given.
<i>– or –</i>	
a) E presses EOVR key.	B receives Camp-On tone. E receives ringback or busy tone depending on the options equipped. E is manually forced camped on to B.
<i>– if –</i>	
b) E presses Transfer key.	D is camped on to B.
<i>– if –</i>	
b) B disconnects.	E rings B.
<i>– if –</i>	
b) E releases.	Camp-On is cancelled and E must press DN key to reconnect to D.
<i>– if –</i>	
b) E presses Conference or Hold key.	Key operation is ignored.
<i>– if –</i>	
b) E presses the DN key that D is held on.	E is reestablished with D.

– if –

b) E presses EOVR key again.

If telephone B or C has disconnected, telephone E receives overflow (fast busy) tone. Otherwise, a conference is established between E, B, and C with Override tone given.

With Automatic Forced Camp-On turned off; response to AFCO in LD 15 was “YES”; Station-to-Station Camp-On is allowed and D is an external call; Multi-Party Operation active:

ACTION

RESPONSE

1 E is connected to D and B and C are connected in a simple call.

2 E presses Conference or Transfer key.

3 E dials B.

E receives dial tone. D on hold.

E receives ringback or busy tone depending on the options equipped. E is automatically Forced Camped on to B.

4 E presses Transfer key.

D is camped on to B.

– or –

B disconnects.

E rings B.

– or –

E releases.

Camp-On is canceled and E must press DN key to reconnect to D.

– or –

E presses Conference or Hold key.

Key operation is ignored.

– or –

E presses the DN key that D is held on.

E is reestablished with D.

– or –

E presses EOVR or OVR key to attempt Priority Override.

If telephone B or C has disconnected, telephone E receives overflow (fast busy) tone. Otherwise, a conference is established between E, B, and C with Override tone given.

Operation with various combinations of Forced Camp-On and Priority Override

The following tables show what happens when either Forced Camp-On or Priority Override are denied.

Forced Camp-On is denied by the new Camp-On From Another Telephone Denied (CPFD) and Camp-On To Another Telephone Denied (CPTD) Classes of Service.

Priority Override is denied for analog (500/2500 type) telephones by setting the Override Denied (OVRD) Class of Service, or for all telephones by setting their Priority Override Levels (PLEV) to 0.

Both Forced Camp-On and Priority Override are denied by the Warning Tone Denied (WTD) Class of Service, or if any of the limitations described in the Operating parameters or Feature interactions section is encountered.

The following table highlights the various combinations and the results of different actions for a simple call:

Setup						
AFCO setting in LD 15	NO	NO	NO	YES	YES	YES
Forced Camp-On Allowed	NO	NO	YES	NO	NO	YES
Priority Override Allowed	YES	NO	NO	YES	NO	NO
Action	Result					
A dials B B is busy	BT	BT	BT	BT	BT	BT or R
A recalls Analog (500/2500 type) telephones only	SDT	SDT	SDT	SDT	SDT	SDT
A uses OVR key or OVRD FFC	POVR	O&L	O&L	POVR	O&L	BT or R
<i>OR</i> A uses EOVR key or FFC	BT	BT	BT or R	POVR	BT	BT or R
A uses EOVR key or FFC again	POVR	O&L	BT or R	POVR	O&L	BT or R

Legend:

BT – Busy tone returned to A.

BT or R – Busy tone or ringback returned to A; A camped on to B.

O&L – Overflow (fast busy) returned to A for 30 seconds, then A is locked out.

POVR – Priority Override is attempted.

SDT – Special dial tone is returned to A.

The following table highlights the various combinations and the results of different actions for a consultation call:

Setup						
AFCO setting in LD 15	NO	NO	NO	YES	YES	YES
Forced Camp-On Allowed	NO	NO	YES	NO	NO	YES
Priority Override Allowed	YES	NO	NO	YES	NO	NO
Action	Result					
A connected to D A recalls Analog (500/2500 type) telephones only	SDT	SDT	SDT	SDT	SDT	SDT
A dials B D is held. B is busy.	BT	BT	BT	BT	BT	BT or R
A recalls Analog (500/2500 type) telephones only	CDT	CDT	CDT	CDT	CDT	CDT
A uses OVR key or OVRD FFC	POVR	O&R	O&R	POVR	O&R	BT or R
<i>OR</i> A uses EOVR key or FFC	BT	BT	BT or R	POVR	BT	BT or R
A uses EOVR key or FFC again	POVR	O&R	BT or R	POVR	O&R	BT or R
A recalls Analog (500/2500 type) telephones only	CDT	REC	CDT	CDT	REC	CDT
<i>OR</i> A presses DN key on which D is held	REC	REC	REC	REC	REC	REC

Legend:

BT – Busy tone returned to A.

BT or R – Busy tone or ringback returned to A; A camped on to B.

CDT – Control dial tone returned to A.

O&R – Overflow (fast busy) returned to A for 30 seconds, then A is reconnected to D.

POVR – Priority Override is attempted.

SDT – Special dial tone is returned to A; D is held.

If at any time invalid digits are dialed for the EOVR or OVRD FFC, overflow (fast busy) tone is returned to the telephone attempting to override. This telephone receives overflow (fast busy) tone for 30 seconds and is then locked out or reconnected to the telephone on hold. If the attempted override is made from a consultation call, the telephone may perform a recall during overflow (fast busy) tone, and return to the call being held.

Enhanced Override from a conference call with any telephone

Once a consultation conference (i.e., party D is still on hold) has been established between telephone A or E and parties B and C, any of the following may occur:

ACTION

Telephone B or C disconnects.

– or –

Telephone A performs a recall and dials a control digit.

– or –

Telephones B and C disconnect.

– or –

Telephone A disconnects or telephone E presses Transfer or Conference key.

– or –

Telephone E disconnects.

RESPONSE

Telephone A or E remains in simple two party consultation with remaining telephone (B or C).

Multi-Party operation for control digit is dialed.

Telephone A or E may automatically be returned to telephone D or may have to perform a recall, depending on Class of Service (AO6/C6A and XFA). Override tone is removed.

D is transferred into the conference with B and C. Override tone is removed.

Telephones B and D remain connected. Telephone D is treated as in the case of misoperation of call transfer. Override tone is removed.

Override, Priority

The Priority Override feature allows users to break in to an established connection. To do this, analog (500/2500 type) telephone users enter the Override Flexible Feature Code (OVRD FFC), and Meridian 1 proprietary telephone users use the Override (OVR) key.

Priority Override can be used as a feature by itself or in conjunction with Forced Camp-On. The combination of the two features is referred to as Enhanced Override (EOVR).

For Priority Override the overriding telephone must have a Priority Override Level (PLEV) that is greater than or equal to the PLEV of the telephone or trunk to be overridden.

For an analog (500/2500 type) telephone, a recall followed by dialing of the Priority Override FFC (OVRD FFC with Priority Override package 186 equipped) breaks into the connection and establishes a conference between all three parties. For a Meridian 1 proprietary telephone, the OVR key is used in place of the FFC.

For Priority Override to be allowed, all telephones and trunks involved must have Warning Tone Allowed (WTA) Class of Service. Each telephone and trunk route (TIE, DID, and COT) is assigned a PLEV value:

PLEV 0	Indicates that this telephone or route cannot be overridden. If assigned to a telephone, the telephone cannot use Override.
PLEV 1	Indicates that this telephone or route can be overridden. If assigned to a telephone, the telephone cannot use Override.
PLEV 2	Indicates that this telephone or route can be overridden by telephones assigned level 2 through level 7. If assigned to a telephone, the telephone can override level 1 and level 2.
PLEV 3-6	Similar to level 2, indicates that this telephone or route can be overridden by telephones assigned an equal or higher level. If assigned to a telephone, the telephone can override telephones assigned an equal or lower level, except level 0.
PLEV 7	Indicates that this telephone or route can be overridden by another level 7 telephone only. If assigned to a telephone, the telephone can override level 1 through level 7.

Operating parameters

Flexible Feature Codes (FFC) package 139 must be equipped for Priority Override to be available from analog (500/2500 type) telephones.

For analog (500/2500 type) telephone activation, Multi-Party Operations (MPO) package 141 must be equipped, with “YES” as the response to the RALL prompt in LD 15 to ensure register recalls are required before dialing control digits. The OVRD FFC defined must not start with the same digit as one of the control digits. The control digits are defined in LD 15 and are printed as part of the Customer Data Block (LD 21).

If Priority Override is equipped, it replaces Override when the OVR key or OVRD FFC is used. However, Override can be simulated by using the default value, 2, for all trunk routes and telephones.

Telephones or trunks involved in any of the following cannot be overridden:

- Non-established call
- Conference call
- Attendant call
- Attendant call via Centralized Attendant Service (CAS), Primary Rate Access (PRA), or Integrated Services Digital Network (ISDN) trunk
- Make Set Busy
- Do Not Disturb
- Automatic Call Distribution (ACD) call
- Operator Call Back
- Hold
- Data call
- Release Link call, and
- Parked call.

Priority Override is not allowed on analog (500/2500 type) telephones unless the Override Allowed (OVDA) Class of Service is defined. This Class of Service is also used for Override.

Trunks cannot perform Priority Override. They also cannot be overridden unless they are the unwanted party of a connection. It is for this exception that trunks are given a Priority Level.

Feature interactions

Attendant calls

Telephones involved in attendant calls cannot be Priority Overridden. Overflow (fast busy) tone is returned to telephones attempting Priority Override.

Automatic Call Distribution (ACD)

Telephones involved in ACD calls cannot be Priority Overridden. Overflow (fast busy) tone is returned to telephones attempting Priority Override.

Conference calls

Telephones involved in Conference calls cannot be Priority Overridden. Overflow (fast busy) tone is returned to telephones attempting Priority Override.

Data calls

Data calls have Warning Tone Denied (WTD) Class of Service, and therefore cannot be Priority Overridden. Overflow (fast busy) tone is returned to telephones attempting Priority Override.

Digit display

The Digit Display of the telephones being overridden changes to the Directory Number (DN) of the telephone overriding once Priority Override is accomplished.

Do Not Disturb (DND)

Telephones with DND enabled cannot be Priority Overridden. Overflow (fast busy) tone is returned to telephones attempting Priority Override.

Hold

Neither held calls, nor telephones with calls on hold can be Priority Overridden. Overflow (fast busy) tone is returned to telephones attempting Priority Override.

Make Set Busy (MSB)

Telephones with MSB active cannot be Priority Overridden. Overflow (fast busy) tone is returned to telephones attempting Priority Override.

Multi-Party Operations (MPO)

With Priority Override (POVR) equipped, there is a slight change in Multi-Party Operations functionality. When a consultation call is made without POVR equipped, and the telephone being called is busy, a recall returns to the party on hold without dialing a control digit. However, if POVR is equipped, a control digit must be dialed. Any control digit releases the busy call and returns to the call on hold.

Operator Call Back

Telephones involved in an Operator Call Back call or Toll Operator Break in cannot be Priority Overridden. Overflow (fast busy) tone is returned to telephones attempting Priority Override.

Override

If Priority Override is equipped, it replaces Override when using the OVR key or OVRD FFC. However, Override can be simulated by using the default PLEV, 2, for all trunk routes and telephones.

Ring Again

Ring Again (RGA) is the only other feature currently available once a busy telephone has been encountered. RGA is not allowed on an analog (500/2500 type) telephone making a Multi-Party Operations consultation call.

Feature packaging

The Priority Override (POVR) feature is package 186. To provide all the capabilities described in this document, Flexible Feature Codes (FFC) package 139 should also be equipped.

Feature implementation

LD 57 – Configure Priority Override FFC.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	FFC	Flexible Feature Codes.
...		
CODE	x...x	Code to be programmed, where x...x is: OVRDOverride (OVRD is used for Priority Override when the Priority Override POVR package 186 is equipped.)
X...X	y...y	The user is prompted with X...X, where X...X is the FFC code entered in response to the CODE prompt. y...y is a one- to seven-character input that the user must dial to use the FFC. Valid inputs are digits 0 through 9, asterisk (*), and octothorpe (#).

LD 10 – Configure Analog (500/2500 type) telephones for Priority Override.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE		Type of telephone.
...	500	analog (500/2500 type) telephone.
CLS		Class of Service.
...	OVDA	Override Allowed.
...	WTA	Warning Tone Allowed.
PLEV	0-(2)-7	Priority Override Level. 0 Indicates that this telephone cannot be overridden or override. 1 Indicates that this telephone can be overridden but cannot override. 2 Indicates that this telephone can be overridden by telephones assigned level 2 through level 7 and that the telephone can override level 1 and level 2. 3-6 Similar to level 2, indicates that this telephone can be overridden by telephones assigned an equal or higher level and that it can override lesser than and equal to levels, except level 0. 7 Indicates that this telephone can be overridden by another level 7 telephone only and that it can override level 1 through level 7.

LD 11 – Configure Meridian 1 proprietary for Priority Override.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
...		
CLS	WTA	Class of Service. Warning Tone Allowed.
...		
PLEV	0-(2)-7	Priority Override Level. 0 Indicates that this telephone cannot be overridden or override. 1 Indicates that this telephone can be overridden but cannot override. 2 Indicates that this telephone can be overridden by telephones assigned level 2 through level 7 and that the telephone can override level 1 and level 2. 3-6 Similar to level 2, indicates that this telephone can be overridden by telephones assigned an equal or higher level and that it can override lesser than and equal to levels, except level 0. 7 Indicates that this telephone can be overridden by another level 7 telephone only and that it can override level 1 through level 7.
...		
KEY	xx OVR	Define keys. Override (If Priority Override [POVR] package 186 is equipped, the OVR key is used for Priority Override.)

LD 16 – Configure Route for Priority Override.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	RDB	Route Data Block.
...		
PLEV	0-(2)-7	Priority Override Level 0 Cannot be overridden. 1-7 Can be overridden by a telephone with a Priority Level which is equal to or greater than the level assigned to this route. Note: Trunks cannot override, but the levels of all parties in a connection are examined to determine if the connection may be overridden.

LD 14 – Configure trunks for Priority Override.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
...		
CLS	WTA	Class of Service. Warning Tone Allowed.

Feature operation

Priority Override can be used when making either a simple or consultation call (i.e., have a call on hold while calling another party). The following feature operation descriptions use telephone A (an analog (500/2500 type) telephone) or telephone E (a Meridian 1 proprietary telephone) to call telephone B, which is connected to party C.

The telephones are configured as follows:

- 1** Telephone A is an analog (500/2500 type) telephone with Warning Tone Allowed (WTA) and Override Allowed (OVDA) Classes of Service.
- 2** Telephone B has Warning Tone Allowed (WTA) Class of Service.
- 3** Party C has Warning Tone Allowed (WTA) Class of Service and can be any telephone type or a Direct Inward Dial (DID), TIE, or Central Office (Public Exchange) (COT) trunk.
- 4** Telephone E is an Meridian 1 proprietary telephone with Warning Tone Allowed (WTA) Class of Service and an Override (OVR) key equipped.

For the following descriptions:

- 1** Telephones A and E have a Priority Override Level (PLEV) of greater than 1.
- 2** Telephone B and party C both have PLEVs greater than 0, but less than or equal to those of telephones A and E.
- 3** Both telephone B and party C are involved in a simple call, not a conference call.
- 4** Call Forward, Hunting, and Call Waiting are not in use.

In the following feature operation descriptions the term “recall” refers to performing a register recall, which can be performed in a number of different ways. Some typical examples are:

- Flash the switchhook (the equivalent of hanging up the handset and picking it back up, this on hook, off hook is performed in a time period that is less than what the system would consider to be a valid disconnect).
- Press the flash or LINK button if equipped.

The Override tone is always provided for Priority Override since Warning Tone Allowed (WTA) Class of Service is a prerequisite. The Override tone used is the same tone as used for Override; the tone is defined in response to the OVRD prompt in the LD-56.

Override will take place on any established call when the Flexible Feature Code (FFC) is dialed or the Override (OVR) key is depressed. That means if telephone A calls telephone B while telephone B is busy, and telephone B disconnects from that call and is established on another call when telephone A activates Override, the new call will be overridden.

POVR with an Analog (500/2500 type) telephone

	ACTION	RESPONSE
1	B and C are connected in a simple call.	
2	A dials B.	A receives busy tone.
3	A performs a recall.	A receives special dial tone (SDT).
4	A dials OVRD FFC to attempt Priority Override.	If telephone B or C has disconnected, telephone A receives overflow (fast busy) tone. Otherwise, a conference is established between A, B, and C with Override tone given.

POVR with a Meridian 1 proprietary telephone

	ACTION	RESPONSE
1	B and C are connected in a simple call.	
2	E dials B.	E receives busy tone.
3	E presses OVR key to attempt Priority Override.	If telephone B or C has disconnected, telephone E receives overflow (fast busy) tone. Otherwise, a conference is established between E, B, and C with Override tone given.

Paging

The Meridian 1 Option 11C Compact provides switching access and trunk circuit interface to a customer-supplied speaker or radio paging equipment. Paging equipment is accessed by dial access or a Page key on Attendant Consoles. Telephones cannot be assigned a Page key and must dial access this feature.

Attendant Consoles using the Page key preempt telephones having only dial access. Telephones preempted by the attendant are disconnected and must re-access the paging trunk.

Time Forced Disconnect (TFD) provides a variable timer to force disconnect Paging trunks. The timer is defined on a route basis to limit the time a user can keep a Paging trunk seized. When the timer expires, the call is disconnected from the trunk. The trunk is disconnected when the Time Forced Disconnect (TFD) timer expires in all cases, regardless of the status of the trunk at the time. Timing starts as soon as the trunk is seized (not when the call is established), so the timer must allow some delay for connection time.

The Time Forced Disconnect timer is used on the following trunk types:

- COT Central Office
- DIC Dictation
- FEX Foreign Exchange
- PAG Paging trunks
- TIE Tie direct lines
- WAT Wide Area Telephone Service

Operating parameters

Station dial access to the Paging trunk is restricted by the Trunk Group Access Restriction (TGAR) code entered in LD 10 or LD 11.

Unique access codes are required for each Paging route.

Unique feature keys are assigned for each Paging route.

All Zone Paging is not available with Meridian 1 Option 11C Compact, unless the customer-provided paging equipment is equipped with separate “all-zone” input.

The following requirements apply to the Time Forced Disconnect (TFD) feature:

- The timer can only be assigned on a route basis and not to individual trunks. All trunks in a route have the same timer value.
- After a timer value is changed, it does not take effect on a given trunk until that trunk is released and seized again.
- Changing a timer value to zero (0) effectively removes the TFD timer from all the trunks in that route.
- The range of the timer is one hour, in 30-second increments (0–3600). The TFD timer is independent of all other timers.

Trunks forced off by TFD are disconnected normally, accompanied by an error message (ERR4054) output on the system terminal. The error message identifies the Originating Terminal Number (TN), Terminating Terminal Number (TN), date, and time for the following trunk types:

- Analog trunks
- Digital Trunk Interface (DTI) trunks, and
- ISDN Integrated Service Links (ISL)/Primary Rate Interface (PRI) trunks.

Feature interactions

Multi-Party Operations

Users of analog (500/2500 type) telephones cannot make a consultation call while connected to a paging trunk.

Feature packaging

Paging is included in base system software.

Feature implementation

LD 16 – Add or change a Paging trunk route.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
CUST	0-99	Customer number.
ROUTE	0-511	Route number.
TKTP	PAG	Paging trunk route.
ICOG	OGT	Outgoing trunk.
ACOD	xxx...x	Trunk route access code (if the Directory Number Expansion package is equipped, this access code can have up to seven digits).
TARG	1-31	Trunk access restriction group number.

LD 16 – Define the timer for the Time Forced Disconnect feature.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
CUST	0-99	Customer number.
ROUTE	0-511	Route number.
CNTL	(NO), YES	Changes to controls or timers (default is NO).
TIMR	TFD xxxx	TFD timer, where: xxxx = 0-(30)-3600 seconds, in 30-second increments.

LD 14 – Add or change a Paging trunk within the Paging trunk route.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	PAG	Paging trunk.
TN	I s c u	Terminal Number.
XTRK	XUT, XEM	Universal Trunk Card (NT8D14), E&M Trunk Card (NT8D15). Prompted only for superloops and the first unit on the card.
CUST	0-99	Customer number.
SIGL	DX2 DX4 EAM EM4 LDR OAD	DX signaling (two-wire) – QPC71 only. DX signaling (four-wire) – QPC71 and NT8D15. E&M signaling (two-wire) – QPC71 and NT8D15. E&M signaling (four-wire) – QPC71 and NT8D15. Loop dial repeating – QPC71 and NT8D14/15. Outgoing automatic, incoming dial – QPC71, NT8D14/15.
STRO	IMM WNK DDL	Immediate start outgoing. Wink start outgoing. Delay dial outgoing.
SUPN	(NO), YES	Answer and disconnect supervision required.

LD 12 – Assign Paging key for an Attendant Console. No programming is required to allow the attendant dial access to Paging.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	ATT, 1250, 2250	Console type.
TN	I s c u	Terminal Number.
KEY	xx PAG yyy...y	Paging key, where: xx = key number (0-9 on M1250, 0-19 on M2250), and yy...y = access code of Paging trunk route.

LD 10 – Allow or deny dial access to Paging for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
TGAR	xx	Allow/deny access to Paging trunk.

LD 11 – Allow or deny dial access to Paging for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
TGAR	xx	Allow/deny access to Paging trunk.

Feature operation

No specific operating procedures are required to use this feature.

Phantom Terminal Numbers

The Phantom Terminal Numbers (PHTN) feature permits Meridian 1 Option 11C Compact users to define and configure Terminal Numbers (TNs) with no associated physical hardware. With this capability, users can define Directory Numbers and Terminal Numbers without having the required telephone sets or line cards.

This feature supports Phantom Terminal Numbers to direct incoming calls to existing telephones using the Call Forward All Calls (CFW) and Remote Call Forward (RCFW) feature capabilities.

However, if the Phantom Terminal Number does not have Remote Call Forward activated, this feature does not have the capability of redirecting an incoming call, directed to a phantom TN, to a default Call Forward Directory Number.

Operating parameters

In normal circumstances, a TN with no associated hardware is usually disabled.

Phantom TNs can use loops 0-159 for all machine types except the Option 11. Phantom TNs on Option 11 telephones are restricted to card slots 41-60 (which convert to Superloops 64-80).

Phantom TNs can only have Single Appearance DN.

All DNs configured on Phantom TNs must conform to existing customer-defined dialing plans.

LD 25 (Move Data Blocks) is not supported between phantom and nonphantom loops; however, it is supported between phantom loops.

Only analog (500/2500 type) telephones support Phantom TNs.

Model telephones (such as TN 500 M) are not supported.

A Phantom TN requires one of the phantom terminal loop types shown in [Table 6](#).

Table 6
Supported phantom terminal loop types

Mnemonic	Description
TERM	Single (1) density terminal loop, configured in LD 17.
TERD	Double (2) density terminal loop, configured in LD 17.
TERQ	Quadruple (4) density terminal loop, configured in LD 17.
SUPL	Superloop (8) density terminal loop, configured in LD 97.

Feature interactions

Attendant and Network-Wide Remote Call Forward (RCFW)

If Call Forward is deactivated on a Phantom TN, all calls to the DN of the Phantom TN are routed to its Default Call Forward (DCFW) DN.

Set-based Remote Call Forward Verify (RCFV) is modified for Phantom TNs. If CFW is deactivated on a Phantom TN and the CFW DN, entered in the RCFV operation, matches the DCFW DN, the user hears a confirmation tone. If the CFW DN does not match the DCFW DN, the user hears an overflow tone.

Attendant Blocking of Directory Number

DNs on Phantom TNs will not be overridden by the Attendant Blocking of DN feature.

Automatic Call Distribution (ACD)

Phantom TNs cannot be configured as ACD agents.

Call Detail Recording (CDR)

CDR records interact with a Phantom TN exactly the same as with an existing TN with the Call Forward All Calls feature activated.

Call Forward All Calls (CFW)

CFW is used in conjunction with RCFW to redirect incoming calls to a Phantom TN/DN to a valid DN.

Call Forward Busy Status

Attempting to define a BFS key for a Phantom TN, results in an error message at the beginning of the phantom loop.

Call Forward Override

Call forward cannot be overridden on Phantom TNs. If override is attempted, an overflow tone occurs.

DPNSS1 Diversion

If an incoming call to a Phantom TN contains a DIVERSION BY-PASS REQUEST, Call Forward All Calls applies.

Hot Line (HOT)

Hot Line does not support Phantom TNs.

Internal Call Forward All Calls**Manual Line****Multiple Appearance****Multiple Appearance Redirection Prime (MARP)****Station Category Index**

These features cannot be enabled on a Phantom TN.

Meridian 1 Link

Phantom TNs cannot originate or terminate calls. Associated Telephone Assignment (AST) Class of Service is not permitted on Phantom TNs. With the Telelink Mobility Switch feature, a separate type of TN can be used by Meridian 1 Link AST applications.

Meridian Mail

Phantom DNs are treated like other DNs and can have a Meridian Mail box.

Remote Call Forward

If Remote Call Forward is used in conjunction with Phantom TNs, then the Phantom TNs must be configured with the Call Forward All Calls (CFW) feature.

Ring Again on No Answer (RANA)

It is not recommended to apply RANA to a phantom DN. A caller is not notified when the phantom DN's forward DN does not answer. A phantom DN cannot be active or busy.

Secretarial Filtering

If a Phantom TN is call forwarded to an existing telephone, and that telephone is used to call the DN on the Phantom TN, the call receives Default Call Forward (DCFW) treatment.

Set-Based Administration Enhancements

Set-Based Administration supports making changes to Phantom TNs with the exception of changing Hunt DNs, since Phantom TNs cannot have Hunt DNs.

Feature packaging

Phantom Terminal Numbers (PHTN) is package 254.

Using Remote Call Forwarding (RCFW) with Phantom TNs, requires Flexible Feature Codes (FFC) package 139.

Feature implementation

LD 17 – Configure a phantom loop.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CEQU	Gate opener.
...		
- TERM	N0-N159	Single density local terminal loop; precede loop number with "N" to create a phantom loop; precede with an "X" to remove a terminal loop.
- TERD	N0-N159	Double density local terminal loop; precede loop number with "N" to create a phantom loop; precede with an "X" to remove a terminal loop.
- TERQ	N0-N159	Quadruple density local terminal loop; precede loop number with "N" to create a phantom loop; precede with an "X" to remove a terminal loop.

LD 97 – Configure a phantom Superloop.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	SUPL	Superloop data.
SUPL	N0-N156 N64-N80	Local Superloop in multiples of four; for Option 11 systems, range is 64-80 in multiples of four; precede loop number with "N" to create a phantom loop; precede with an "X" to remove a terminal loop.

LD 57 – Create Flexible Feature Code for Remote Call Forward

Prompt	Response	Description
REQ	NEW, CHG	Add, or Change.
TYPE	FFC	Flexible Feature Codes.
CUST	0	Customer Number.
FFCT	YES	Flexible Feature Code Confirmation Tone enabled. NO = disabled.
...		
CODE	RCFA	Remote Call Forward Activate code.
- RCFA	xxxx	Enter Flexible Feature Code.
CODE	RCFD	Remote Call Forward Deactivation code.
- RCFD	xxxx	Enter Flexible Feature Code.
CODE	RCFV	Remote Call Forward Verification code.
- RCFV	xxxx	Enter Flexible Feature Code.

LD 15 – Define Station Control Password Length to allow station assigned passwords.

Prompt	Response	Description
REQ	CHG	Change existing data block.
TYPE	FFC	Flexible Feature Code.
...		
SCPL	0 - 8	Station Control Password Length.

LD 10 – Define a TN for the phantom loop.

Note: For Option 11 systems, the card entered must correspond with a valid phantom loop configured in LD 97.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	500	Telephone type.
TN	c u	Terminal number; if the loop is a phantom loop, "PHANTOM" is echoed to the technician.
...		
DN	xxx...x	Directory Number; must be a Single Appearance DN
...		
SCPW	xxxx	Station Control Password.
...		
CLS	aaaa	Class of Service options, which cannot include AGTA, CCSA, MNL, or LPA.
...		
FTR	DCFw nn x...x	Default Call Forward where: nn = number of digits up to 23 x...x = Default Call Forward DN.

Feature operation

Call forwarding occurs as described below, with the exception of the situations described in [“Feature interactions” on page 376](#).

- 1** A call is directed to a phantom Directory Number.
- 2** If the phantom Directory Number has Call Forward All Calls Activated, the call is redirected to the forwarded Directory Number, or
- 3** If the phantom Directory Number has Call Forward All Calls Deactivated, the call is redirected to the default call forwarded Directory Number.

Predictive Dialing

With Predictive Dialing, the process of making outgoing calls to customers is automated for Automatic Call Distribution (ACD) agents. Host applications can request the Meridian 1 Option 11C Compact to make calls using autodialers or phantom TNs. When a call is answered, the application sends a request to the switch to transfer the call to a live agent. The call needs to be transferred before, or while, the customer starts speaking in order to prevent customers from abandoning the call if they think no one has called them. This transfer was previously performed by Meridian 1 Link in two steps by sending two separate Application Module Link (AML) messages to initiate and then complete the transfer. This operation takes a minimum of 400 to 450 milliseconds for the Meridian 1 Option 11C Compact to process.

The Fast Transfer development allows applications residing on the Application Module (AM) or host computers to transfer a call in one step, a blind transfer, by sending only one AML message (Fast Transfer) to the switch, thereby saving approximately 200 to 250 milliseconds of transfer time. This Fast Transfer feature is useful for predictive applications to make outbound calls and then quickly transfer them once the customer has answered (i.e., live voice has been detected). Fast Transfer can also be used in a non-predictive dialing environment. Applications that want to perform a blind transfer can now execute it more quickly.

The Predictive Dialing feature enables applications residing on the AM or host computers to send a combined Make Call and Transfer request on behalf of an autodialer or Phantom TN. As soon as live voice is detected by third-party equipment, or notification is sent to the switch indicating the call has been answered (e.g., answer supervision), the application can send the Fast Transfer request to the switch immediately transferring the call to an ACD agent.

Operating parameters

When Phantom TNs/DNs are used to originate calls as part of a predictive dialing operation, the Option 11 will not be supported.

Attendant Consoles, and Basic Rate Interface sets cannot initiate Fast Transfer or predictive calls.

The Meridian 1 Option 11C Compact does not support live voice answer detection. Live voice answer detection is currently achieved through third-party vendor equipment.

If phantom TNs/DNs are used, this development only supports calls and Fast Transfers originated by phantom TNs/DNs which are defined as Associate set (AST) Meridian 1 proprietary sets on a phantom loop.

Data calls are not supported.

For outbound trunk calls, if no third-party equipment is used to detect live voice answer, the switch will have to depend on receiving answer supervision before transferring the call to the target DN.

If voice detection is used, the application will not be able to Fast Transfer the call before the call is established (i.e., answer notification is received).

The application will not be able to complete the transfer when Fast Transferring over a trunk.

Not all analog trunks support answer supervision. All digital trunks do not provide answer supervision. For trunks that do not support answer supervision, the End-of-Dialing (EOD) timer will be used to trigger the transfer.

Receiving answer supervision depends on the accuracy of signals returned by the external network. Answer supervision may be received before an EOD timeout, fake answer supervision may also be received due to an EOD timeout, and a pseudo answer supervision may be received if the far-end has an EOD timeout even though the local switch has answer supervision configured.

The AML requires an Enhanced Serial Data Interface (ESDI) card or Multi-purpose Serial Data Link (MSDL) card (NT6D80AA) on the switch. If an Option 11 is used, a Serial Data Interface/D-Channel (SDI/DCH) card (NTAK02AA) is required to configure the ESDI port.

The AML connection requires an RS232 cable.

Meridian 1 Link software is required for host applications to utilize this feature.

Feature interactions

Call Transfer by Meridian 1 Proprietary Set

The application sends the Fast Transfer request on behalf of a Meridian 1 proprietary set, and then the switch initiates and completes the transfer immediately which is similar to a normal call transfer from a Meridian 1 proprietary set.

In a Predictive Dialing scenario where the autodialer (originating DN) is a Meridian 1 proprietary set, the Make Call message sent by the application to the switch to make a call on behalf of the Meridian 1 proprietary set, and then the call transfer call, will interact with the Meridian 1 proprietary Call Transfer feature. The autodialer is configured with Class of Service TRN so that the switch can transfer the call to the target destination.

Call Transfer by Analog (500/2500 type) Set

The application sends the Fast Transfer request on behalf of an analog (500/2500 type) set. The switch will then initiate and complete the transfer in one step.

In a predictive dialing scenario, the application will send the Make Call request on behalf of the autodialer (analog [500/2500 type] set) to have the switch make the call, and then transfer the call when the switch receives the Fast Transfer message. The autodialer needs to be configured with Classes of Service Dial Pulse (DIP) and Transfer Allowed (XFA) for 500 sets, or with Classes of Service Digitone (DTN) and XFA for 2500 sets.

Command and Status Link

The Command and Status Link, also known as the AML, is the link on which the messages for the Predictive Dialing feature flow between the switch and an Application Module. The CON/FastTransfer is an AML message.

Trunks

Only certain trunks will support answer supervision. The End-of-Dialing timer will be used for trunks that do not support answer supervision.

Call Hold

If an established call is put on hold by the set initiating the Fast Transfer, the switch will not be able to transfer the call. The switch can only transfer a call if it is in the established state.

Feature packaging

There are no new software packages required for the Predictive Dialing feature. However, the following packages are required to utilize the feature:

- Application Module Link (IAP3P) package 153, and
- Meridian 1 Link Module (MLM) package 209 if the Meridian 1 Link Module is involved.

Feature implementation

This feature does not require any changes to the overlays. The following illustrates the configuration requirements to set up this feature. Most of these requirements are used by existing Meridian 1 Link and Application Module applications.

LD 17 – Configure the ESDI port to the Meridian 1 Link Module.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	ADAN	Gate opener.
- CTYP	ESDI	Card Type. ESDI card.
- DNUM	x	Device number is x.
- DES	NEWTTY	Description of this I/O device.
- BPS	19200	Baud rate is 19,200 bits per second.
- CLOK	INT	Internal clocking.

- IADR	3	HDLC protocol individual address.
- RADR	1	HDLC protocol remote address.
TYPE	PARM	Gate opener.
...		
- CSQI	(20)	Maximum call registers for Command and Status Link (CSL) input queues (use the default, unless the system requires otherwise).
- CSQO	(20)	Maximum call registers for CSL output queues (use the default, unless the system requires otherwise).
TYPE	VAS	Gate opener.
...		
- VSID	y	Server ID y.
- AML	x	Port used by AML defined earlier in this overlay.
- - SECU	YES	Security on for Meridian 1 Link.
- - INTL	x	Length of time interval (five-second increments) (e.g., 2).
- - MCNT	x	Threshold for number of messages per time interval (e.g., 100).
- - CONF	DIR	Direct link configuration.

LD 17 – Configure the MSDL port to the Meridian 1 Link Module.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	ADAN	Gate opener.
...		
- CTYP	MSDL	Card Type. MSDL card.
- DNUM	y	Device number is y. Refers to the device number on the MSDL card.
- DES	MERIDIAN_LINK	Description of this I/O device.
- BPS	19200	Baud rate is 19,200 bits per second.
- PARM	RS232 DCE	Parameters for interface and transmission mode. DTE/DCE setting.
- IADR	3	HDLC protocol individual address.
- RADR	1	HDLC protocol remote address.
TYPE	PARM	Gate opener.
...		
- CSQI	(20)	Maximum call registers for CSL input queues (use the default, unless the system requires otherwise).
- CSQO	(20)	Maximum call registers for CSL output queues (use the default, unless the system requires otherwise).
TYPE	VAS	Gate opener.
...		
- VSID	y	Server ID y.
- AML	x	Port used by AML x, defined earlier in this overlay.
- - SECU	YES	Security on for Meridian 1 Link.
- - INTL	x	Length of time interval (five-second increments) (e.g., 2).

-- MCNT	x	Threshold for number of messages per time interval (e.g., 100).
-- CONF	DIR	Direct link configuration.

LD 10 – Configure non-ACD Analog (500/2500 type) telephones as autodialers.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
...		
TN	c u	Terminal Number.
...		
CUST	0	Customer number.
...		
DN	x...x	Internal Directory Number.
AST	YES	Associate set assignment. The internal DN is an AST.
CLS	XFA	Transfer allowed.
CLS	DIP	Dial Pulse Class of Service for 500 sets (use DTN for 2500 sets).

LD 11 – Configure non-ACD Meridian 1 proprietary telephones as autodialers.

Prompt	Response	Description
REQ	NEW	New.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
...		
CUST	0	Customer number.
...		
KLS	1-7	Number of key lamp strips, typically one.
...		
AST	xx yy	Key number for Associate set DN assignment.
...		
KEY	xx SCR yyyy	Key number, Single Call Ringing, DN.
KEY	xx TRN	Key number, Call Transfer.
KEY	xx AO6	Key number, six-party conference.
KEY	xx SCR yyyy	Key number, Single Call Ringing, second DN.
CLS	xx RLS	Key number, Release.

LD 23 – Configure ACD groups.

Prompt	Response	Description
REQ	NEW	New.
TYPE	ACD	Automatic Call Distribution data block.
CUST	0	Customer number
ACDN	xxxx	ACD Directory Number.
...		
ISAP	YES	Integrated Services Application Protocol. ACD DN uses Meridian 1 Link (ISDN/AP) messaging.
- VSID	0-15	Value Added Server ID. This Server ID used for Meridian 1 Link messaging must match the VSID defined in LD 17.

LD 10 – Configure ACD Analog (500/2500 type) telephones as autodialers.

Prompt	Response	Description
REQ	NEW	New.
TYPE	500	Telephone type.
...		
TN	c u	Terminal Number.
...		
CUST	0	Customer number.
...		
DN	x...x	Internal Directory Number.
AST	YES	Associate set assignment. The internal DN is an AST.
CLS	AGTA	ACD agent allowed Class of Service.
CLS	DIP	Dial Pulse Class of Service for 500 sets (use DTN for 2500 sets).
...		
AACD	YES	ACD telephone is an Associate set.
FTR	ACD xxxx yyyy	ACD DN and the ACD position ID.

LD 11 – Configure ACD Meridian 1 proprietary telephones as autodialers.

Prompt	Response	Description
REQ	NEW	New.
TYPE	aaaa	Telephone type, where: aaaa = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	c u	Terminal Number.
...		
CUST	0	Customer number.
...		
KLS	1-7	Number of key lamp strips, typically one.
...		
AST	xx yy	Key numbers for Associate set DN assignment.
...		
KEY	0 ACD xxxx yyyy	Key 0, ACD, ACD DN, and agent's ID.
KEY	xx MSB	Key number, Make Set Busy.
KEY	xx NRD	Key number, Not Ready.
KEY	xx TRN	Key number, Call Transfer.
KEY	xx AO6	Key number, six-party conference.
KEY	xx SCR yyyy	Key number, Single Call Ringing, second DN.
CLS	xx RLS	Key number, Release.

LD 23 – Configure a Control DN (CDN – default mode). If the application wants to transfer a call to a target CDN, a CDN must be configured. CDNs can be in default or controlled mode.

Prompt	Response	Description
REQ	NEW	New.
TYPE	CDN	Control Directory Number data block.
CUST	0	Customer number.
CDN	xxxx	DN of the Control DN (counts as an ACD DN).
...		
DFDN	xxx...x	Default destination ACD DN.
CEIL	0-(2047)	CDN ceiling value. CEIL limits the number of unanswered calls a CDN can have at its default ACD DN at a time. Enter the maximum value (the default).
...		
RPRT	YES	Report Control.
CNTL	NO	NO sends CDN calls to the Default ACD DN.

LD 23 – Configure a Control DN (CDN – controlled mode). When a CDN is in controlled mode, the application can have control of the call once it enters the CDN.

Prompt	Response	Description
REQ	NEW	New.
TYPE	CDN	Control Directory Number data block.
CUST	0	Customer number.
CDN	xxxx	DN of the Control DN (counts as an ACD DN).
...		
DFDN	xxx...x	Default destination ACD DN.
CEIL	0-(2047)	CDN ceiling value. CEIL limits the number of unanswered calls a CDN can have at its default ACD DN at a time. Enter the maximum value (the default).
...		
RPRT	YES	Report Control.
CNTL	YES	Control DN is in control (the default).
VSID	0-15	Value Added Server ID. Server ID used for Meridian 1 Link messaging (defined in LD 17).
HSID	0-15	Host Link ID used when Customer Controlled Routing and Meridian 1 Link applications are both running.

LD 14 – Define answer supervision for trunks. If the application wants to transfer outgoing calls based on answer supervision, answer supervision must be configured. If answer supervision is not configured, the End-of-Dialing timer will be used as a trigger for the Meridian 1 Option 11C Compact to transfer the call.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaa	Trunk type.
TN	c u	Terminal Number.
...		
SUPN	YES	Answer and disconnect supervision are required.

LD 16 – If the application is using the End-of-Dialing timer to transfer outbound calls, the timer must be configured in the Route Data Block.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block
...		
CNTL	YES	Change controls or timers.
- TIMR	EOD 128-(13952)-32640	End-of-Dialing timer in milliseconds. The default is 13952 milliseconds.

LD 17 – In order to originate calls from phantom TNS/DNs, a phantom loop must first be configured. A phantom DN can then be configured as part of a specific device group.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CEQU	Gate opener.
...		
- TERM	0-159 [X] 0-159 [C] 0-159	Single density local terminal loops. Precede loop number with X to remove. Precede loop number with C to create a phantom loop.
- TERD	0-159 [X] 0-159 [C] 0-159	Double density local terminal loops. Precede loop number with X to remove. Precede loop number with C to create a phantom loop.
- TERQ	0-159 [X] 0-159 [C] 0-159	Quad density local terminal loops. Precede loop number with X to remove. Precede loop number with C to create a phantom loop.

LD 97 – If a superloop is used, the phantom loop is configured in this overlay.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	SUPL	Superloop parameters.
SUPL	0-156 [X] 0-156 [C] 0-156	Superloop number in multiples of four. Precede superloop number with X to remove. Precede superloop number with C to create a phantom superloop.

LD 11 – After configuring the phantom loop, an AST Meridian 1 proprietary set can be designated to a specific device group which can be controlled by applications. Therefore, when an application wants to originate a call on behalf of an idle TN it can use a phantom TN. This idle TN is an AST Meridian 1 proprietary set which is defined on a phantom loop. The ITNA and DGRP prompts need to be configured as follows:

Prompt	Response	Description
REQ	NEW	New.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
...		
CDEN	SD DD 4D	Card density. Single density. Double density. Quad density.
DES	phanDN	One-to-six character Office Data Administration System (ODAS) Station Designator.
CUST	0	Customer number.
...		
CLS	NDD	No digit display is recommended if configuring phantom devices.
CLS	(DNDD)	Dialed Name Display denied is recommended if configuring phantom devices.
...		
AST	00	Key 0 is AST.
IAPG	(0)-15	Meridian 1 Link Unsolicited Status Message (USM) group. These groups determine which status messages are sent for an AST set. The default 0 sends no messages, whereas Group 1 sends all messages.

ITNA	(NO), YES	Idle TN for third-party application.
DGRP	(1)-5	Device Group with which phantom TNs are associated.
...		
KEY	xx SCR yyyy	Key number, Single Call Ringing, DN.
CLS	xx RLS	Key number, Release.

Feature operation

Applications invoke the Fast Transfer feature by sending a Fast Transfer request message to the switch. No specific operating procedures are required to use this feature.

Pretranslation

In a business or hospitality environment, many communications situations can be simplified with a flexible dialing plan. Pretranslation lets you create such a plan by using Speed Call lists as Pretranslation Tables.

Some typical uses of Pretranslation are:

- room number to DN correlation
- partitioning of telephones by category, group, department, floor, building, room, special service, and so on
- internal call restrictions, and
- expanded customer dialing capability.

The dialing capabilities and/or restrictions of each Pretranslation group are defined in Pretranslation Tables. The tables are Speed Call lists modified for Pretranslation.

With Pretranslation, only the first dialed digit of a call is pretranslated. The translation choices are:

- **Pass** the digit as dialed with no changes
- **Replace** the first dialed digit with a specified substitute digit or digits, and pass the remaining digits unchanged
- **Delete** the first dialed digit and pass the remaining digits unchanged, or
- **Block** the call based on the first digit dialed.

The pretranslator must deal with all telephones, trunks, and consoles capable of delivering a dialed digit to the Meridian 1 Option 11C Compact digit processor. Each of these must be assigned to one of 255 Pretranslation groups. The groups are generally set up as follows:

- trunk and Direct Inward System Access (DISA) calls default to group 0
- Attendant Consoles default to group 1, and
- telephones and terminals default to group 0, but may be assigned to groups 2-254.

Note: When Pretranslation group 0 is configured, all sets are affected, as the XLST prompt in LDs 10 and 11 has a default value of 0. The XLST prompt associates a set with a specified Pretranslation group.

The dialing capabilities of each group are reflected by the codes stored against entries in the Pretranslation Table. The four possible codes are:

Code	Function
*	Block call.
***	Delete Pretranslation (first dialed) digit, pass remaining digits unchanged.
space <CR>	Pass Pretranslation digit unchanged.
xxxx...x	Pretranslate digit into xxxx...x, where: xxxx...x = replacement DN.

Only the first dialed digit is sent from the digit processor to the pretranslator. The pretranslator looks up the stored code for the dialed digit in the Pretranslation Table associated with the calling terminal, applies the treatment specified by the entry, and passes the result to the DN translator. From then on, the call is processed normally. Pretranslation of the call is finished at this point, unless call modification procedures, such as a Call Transfer, are involved.

Setting up dialing plans and Pretranslation Tables

Steps needed to set up Pretranslation:

- 1 Identify the customer numbering plan.
- 2 Determine access and restrictions for each Pretranslation calling group.
- 3 Determine dialing requirements and instructions for the Pretranslation calling groups and create a Pretranslation Table for each group.
- 4 Implement the feature.

A hotel has been chosen as a model to illustrate the principles of Pretranslation and how to set up Pretranslation. However, Pretranslation can be applied to many other business environments.

Table 7
Description of model

Hotel with 12 floors containing administrative offices, hotel services, and guest rooms.
--

Floor 1 – Lobby, gift shop, restaurants, and administrative offices.

Floor 2 – Meeting rooms, salon, and additional office space.

Floor 3 – Banquet rooms and health club.

Floors 4-12 – Guest rooms (floors 4-9 each have 50 rooms, floors 10-12 each have 25 suites).

Step 1 – Identify the numbering plan

The model hotel's numbering plan is shown in [Table 8](#).

Table 8
Numbering plan for model

Available numbers	Assigned to	Actual DNs used
0	Operator	0
1	Guest rooms on floor 10	1001-1026
	Guest rooms on floor 11	1101-1126
	Guest rooms on floor 12	1201-1226
2	Room service	2001
	Cafe	2002
	Restaurant	2003
	Gift shop	2004
	Health club	2005
	Salon	2006
	Housekeeping	2007
	Bell Captain	2008
	Valet	2009
	Meeting rooms	2100-2199
	Administrative offices	2300-2599
	Security	2700
	Front desk	2730
	Lobby telephones	2750-2765
	Miscellaneous	2800-2899
3	SPRE code	
4	unused	
5	unused	
6	Trunk access codes	620-635
7	Guest rooms on floor 4	7401-7451
	Guest rooms on floor 5	7501-7551
	Guest rooms on floor 6	7601-7651
	Guest rooms on floor 7	7701-7751
	Guest rooms on floor 8	7801-7851
	Guest rooms on floor 9	7901-7951
8	unused	
9	BARS access codes	9

Step 2 – Determine access restrictions

Pretranslation calling groups and dialing restrictions are shown in [Table 9](#).

Table 9
Access and restrictions for model

Group number (XLST)	Type of station	Allowed access	Denied access
0	Default for DISA trunks and telephones	Operator only	All except Operator
1	Guest rooms	Other guest rooms, hotel services, local and long distance, operator	Administrative telephones and direct trunk access
2	Lobby and courtesy telephones	Guest rooms, security, and the operator	Hotel services, administrative telephones, local and long distance, direct trunk access, and SPRE
3	Administrative A	Guest rooms, administrative telephones, direct trunk access, SPRE, operator, BARS access for local and long distance	Direct trunk access
4	Administrative B	Guest rooms, administrative telephones, SPRE, operator	Direct trunk access, BARS access for local and long distance

Step 3 – Determine dialing requirements and create Pretranslation Tables

Dialing instructions for Group 0 (zero) in this model are shown in [Table 10](#) and the corresponding Pretranslation Table is listed in [Table 11](#). For an explanation of the groups used in this model, see [Table 9](#).

Table 10

Group 0 – Default for unassigned trunks and telephones

Actual digits dialed	Desired destination
1	Operator
2	Operator
3	Operator
4	Operator
5	Operator
6	Operator
7	Operator
8	Operator
9	Operator
0	Operator

Table 11

Group 0 – Pretranslation Table (default)

Digit	Code	Function	Destination
1	0	replace	Operator
2	0	replace	Operator
3	0	replace	Operator
4	0	replace	Operator
5	0	replace	Operator
6	0	replace	Operator
7	0	replace	Operator
8	0	replace	Operator
9	0	replace	Operator
0	space <CR>	pass	Operator

Dialing instructions for Group 1 in this model are shown in [Table 12](#) and the corresponding Pretranslation Table is listed in [Table 13](#).

Table 12
Group 1 – Guest dialing instructions for model

Actual digits dialed	Desired destination
1xxx	Guest rooms on floors 10-12
2	Security
3	SPRE (housekeeping staff for Room Status)
4	Front desk
51	Room Service
52	Cafe
53	Restaurant
54	Gift shop
55	Health club
56	Salon
57	Housekeeping
58	Bell captain
59	Valet
7xxx	Guest rooms on floors 4-9
8	Long distance calls
9	Local calls
0	Operator

Table 13
Group 1 – Pretranslation Table (Guests)

Digit	Code	Function	Destination
1	space <CR>	pass	Guest rooms
2	2700	replace	Security
3	space <CR>	pass	SPRE
4	2730	replace	Front desk
5 (see Note)	200	replace	Guest services
6	*	block call	Not used
7	space <CR>	pass	Guest rooms
8	620	replace	Long distance calls
9	space <CR>	pass	Local calls
0	space <CR>	pass	Operator
Note: When a guest dials 51 for room service, the digit “5” is translated to the entry “200” and the 1 is passed as is, resulting in the extension “2001.”			

Dialing instructions for Group 2 in this model are shown in [Table 14](#) and the corresponding Pretranslation Table is listed in [Table 15](#).

For an explanation of the groups used in this model, see [Table 9](#).

Table 14
Group 2 – Lobby and courtesy telephone dialing instructions

Actual digits dialed	Desired destination
1xxx	Guest rooms on floors 10-12
2	Security
7xxx	Guest rooms on floors 4-9
0	Operator

Table 15
Group 2 – Pretranslation Table (lobby and courtesy telephones)

Digit	Code	Function	Destination
1	space <CR>	pass	Guest rooms
2	2700	replace	Security
3	*	block call	Not used
4	*	block call	Not used
5	*	block call	Not used
6	*	block call	Not used
7	space <CR>	pass	Guest rooms
8	*	block call	Not used
9	*	block call	Not used
0	space <CR>	pass	Operator

Dialing instructions for Group 3 in this model are shown in [Table 16](#) and the corresponding Pretranslation Table is listed in [Table 17](#).

For an explanation of the groups used in this model, see [Table 9](#).

Table 16
Group 3 – Administrative A dialing instructions for model

Actual digits dialed	Desired destination
1xxx	Guest rooms on floors 10-12
2xxx	Administrative telephones
3	SPRE
7xxx	Guest rooms on floors 4-9
9	Local/long distance through BARS
0	Operator

Table 17
Group 3 – Pretranslation Table (Administrative A)

Digit	Code	Function	Destination
1	space <CR>	pass	Guest rooms
2	space <CR>	pass	Administrative telephones
3	space <CR>	pass	SPRE
4	*	block call	Not used
5	*	block call	Not used
6	*	block call	Not used
7	space <CR>	pass	Guest rooms
8	*	block call	Not used
9	space <CR>	pass	Local/long distance through BARS
0	space <CR>	pass	Operator

Dialing instructions for Group 4 in this model are shown in [Table 18](#) and the corresponding Pretranslation Table is listed in [Table 19](#).

For an explanation of the groups used in this model, see [Table 9](#).

Table 18
Group 4 – Administrative B dialing instructions for model

Actual digits dialed	Desired destination
1xxx	Guest rooms on floors 10-12
2xxx	Administrative telephones
3	SPRE
7xxx	Guest rooms on floors 4-9
0	Operator

Table 19
Group 4 – Pretranslation Table (Administrative B)

Digit	Code	Function	Destination
1	space <CR>	pass	Guest rooms
2	space <CR>	pass	Administrative telephones
3	space <CR>	pass	SPRE
4	*	block call	Not used
5	*	block call	Not used
6	*	block call	Not used
7	space <CR>	pass	Guest rooms
8	*	block call	Not used
9	*	block call	Not used
0	space <CR>	pass	Operator

Operating parameters

Pretranslation Table codes are limited to the four described on [page 402](#).

User groups are limited to 255.

Each Pretranslation Table entry can be up to 31 characters long; however, it is recommended that a maximum of eight characters be used.

After Pretranslation, any previously loaded (but not pretranslated) digits are added to the end of the pretranslated digits. If the total number of digits exceeds 31, the excess digits will be truncated.

Each Pretranslation Table reduces the number of available Speed Call lists in the system.

Speed Call Controllers do not have access to Pretranslation Tables. Lists must be created and maintained through Service Change.

Before configuring a Pretranslation Data Block in LD 18, Pretranslation group 0 must be configured.

When Pretranslation is allowed in LD 15 (PREO = 1), in order for a pretranslation entry to be removed, Pretranslation must first be disabled in LD 15 (PREO = 0). The Pretranslation data block is then removed in LD 18. It is not possible to remove a single entry. The entire data block must be removed.

Feature interactions

Authorization Code

The first digit dialed after a valid Authorization Code is sent to the pretranslator.

Automatic Redial (ARDL)

ARDL can be activated on a number that has passed the Pretranslation process. However, on an ARDL call the Pretranslation process is not used.

Automatic Trunk Maintenance

Private Line

Telset Messaging

Pretranslation cannot be used with these features.

Call Detail Recording (CDR)

If a number dialed is pretranslated, the translated digits appear in the CDR records, not the dialed digits.

Call Forward

The DN dialed-forwarded calls are pretranslated.

Charge Account

The first digit dialed after a valid Charge Account Code is sent to the pretranslator.

Digit Display

The Pretranslation digit is displayed as it was dialed, but if the call is put on hold, the digits of the pretranslated DN are displayed.

Direct Inward System Access (DISA)

DISA calls are automatically assigned XLST 0.

Direct Private Network Access

Digits automatically inserted by DISA Digit Insertion are pretranslated during call processing in the same manner as if the caller had manually dialed the digits

Electronic Switched Network (ESN)

The pretranslator is used with calls to HNP, HLOC, and Home CDP locations.

Flexible Feature Codes

Flexible Feature Codes must be accessible through a Pretranslation Table entry in order for users to activate features in this manner.

The Flexible Feature Code (FFC) feature will not be affected if the FFC's begin with "*" or "#", since before translation begins if the first digit is an "*" or "#" pretranslation will not be done. If any digits follow the FFC code, the first of the digits that follows will be pretranslated.

Forced Charge Account

The first digit dialed after a valid Charge Account Code is sent to the pretranslator.

Meridian 1 Link Calls

Pretranslation cannot function with Meridian 1 Link calls if the Hospitality Voice Services (HVS) package is enabled.

Special Prefix

The SPRE code must be accessible through a Pretranslation Table entry in order for users to activate features in this manner.

Speed Call

Entries must be accessible through a Pretranslation Table entry in order to place a speed call.

A Speed Call List number should be programmed to allow for Pretranslation. For example, if 9 pretranslates to 99 and you want to reach 99 nxx xxxx, you need to program the number in the Speed Call List as 9 nxx xxxx. When the Speed Call List is used, 9 nxx xxxx is pretranslated at call processing time to become 99 nxx xxxx.

Feature packaging

Pretranslation (PXLT) package 92 has no feature package dependencies.

Feature implementation

LD 17 – Allocate sufficient Speed Call lists to be used as Pretranslation Tables.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN PARM	Configuration Record. Gate opener.
...		
- MSCL	(0)-8191	Maximum number of Speed Call lists.

LD 18 – Add or change a Speed Call list to be used for each Pretranslation calling group.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	SCL	Speed Call data block.
LSNO	0-8190	Number of Pretranslation list.
DNSZ	4-(16)-31	Number of digits that can be in a list entry.
SIZE	10	Maximum number of entries.
WRT	(YES), NO	Data is correct and can be updated in data store.
STOR		x is the first digit dialed.
	x *	* = block call.
	x ***	*** = delete the digit.
	x space <CR>	space <CR> = pass digit unchanged.
	x yyyy...y	yyyy...y = replacement digits.

WRT	(YES), NO	Data is correct and can be updated in data store.
STOR	<CR>	Ends input of list entries.

LD 18 – Add or change the Pretranslation data block, defining the calling group to Speed Call list correlation. This list must be configured before Pretranslation (PREO) is enabled in LD 15.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	PRE	Pretranslation.
CUST	0-99	Customer number.
XLAT	xxx yyyy	Pretranslation list, where: xxx = Pretranslation calling group number (0-254), and yyyy = corresponding Speed Call list number (1-8190).

LD 15 – Activate Pretranslation and define calling groups to Speed Call list correlation.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0-99	Customer number.
- PREO	0, 1	Allow or deny Pretranslation, where: 0 = no Pretranslation, and 1 = Pretranslation.

Note: When Pretranslation group 0 is configured, care must be taken to define the XLST prompt, rather than letting it default automatically to 0. If XLST does default to 0 when Pretranslation group 0 is configured, all sets in the switch are affected.

LD 10 – Associate an Analog (500/2500 type) telephone with a Pretranslation group.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	500	Telephone type.
TN	l s c u	Terminal Number.
XLST	0-254	Associate telephone with the specified Pretranslation group.
	<CR>	Default to Pretranslation group 0 (only when REQ = NEW). It is important to define the XLST prompt, rather than letting it default to 0, as when Pretranslation group 0 is configured, all sets in the switch are affected.

LD 11 – Associate a Meridian 1 proprietary telephone with a Pretranslation group.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
XLST	0-254	Associate telephone with the specified Pretranslation group.
	<CR>	Default to Pretranslation group 0 (only when REQ = NEW).

Feature operation

No specific operating procedures are required to use this feature.

Privacy

Meridian 1 proprietary telephones automatically provide Privacy for telephones sharing a single call arrangement Directory Number (DN). When a call is in progress on the DN, no other telephone on which the DN appears can enter the call.

Operating parameters

Privacy is not available for analog (500/2500 type) telephones.

If the Directory Number (DN) is shared with any single line telephone, Privacy is not in effect for any appearance of the DN, and anyone sharing that DN can enter an active call.

Feature interactions

Automatic Redial (ARDL)

If the ARDL call is redialed on a number that is shared with any single line telephone, the ARDL call is accepted when the single line telephone goes off-hook.

Privacy Override

The user can Override the inherent privacy on Meridian 1 proprietary telephones. If an appearance occurs on a telephone with Privacy Override enabled, that appearance can bridge into an active call. This pertains to calls on a multiple appearance single call Directory Number (DN) when not mixed with single line telephones.

Feature packaging

Privacy is included in base system software.

Feature implementation

No change to existing configuration is required for the Privacy feature.

Feature operation

No specific operating procedures are required to use this feature.

Privacy Override

A Meridian 1 proprietary telephone with a Privacy Override Allowed (POA) Class of Service can enter an established call on a multiple appearance single call Directory Number (DN). However, the call cannot be joined until it is established (i.e., the EOD timer has expired).

If all members of a non-mixed multiple appearance single call DN group are allowed Privacy Override, the operation of the feature is equivalent to a mixed multiple appearance single call arrangement.

When a group contains a combination of Privacy Override Allowed (POA) and Privacy Override Denied (POD) Classes of Service, the telephones denied Privacy Override cannot bridge into established calls.

Operating parameters

Privacy Override does not apply to analog (500/2500 type) telephones.

Feature interactions

Automatic Redial (ARDL)

When the Privacy Override feature is activated on the MADN key and the one set activates ARDL, this call can be accepted by other sets.

Exclusive Hold

Telephones with POA Class of Service cannot bridge into calls on Directory Numbers (DNs) with Exclusive Hold active.

Call Park

Calls in a Privacy Override conference state cannot be parked.

Call Transfer

Calls in a Privacy Override conference state cannot be transferred.

Conference

The Conference feature can be used to add other parties to a Privacy Override connection.

Multiple Appearance DN, Mixed Mode

Since the Privacy feature is not active in this mode, telephones with a POD Class of Service can bridge into an active call.

Feature packaging

Privacy Override is included in base system software.

Feature implementation

LD 11 – Allow or deny Privacy Override on a Meridian 1 proprietary telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	POA, (POD)	Allow or deny Privacy Override.

Feature operation

To activate Privacy Override, press the multiple appearance single call DN. You are automatically connected to the call.

Privacy Release

In multiple appearance single call arrangements of Meridian 1 proprietary telephones, Privacy Release allows one other appearance of the Directory Number (DN) to enter the call. Privacy is then reestablished until Privacy Release is activated again.

Operating parameters

Privacy Release is available only with Meridian 1 proprietary telephones in multiple appearance single call arrangements.

The system must be equipped with a conference loop.

Feature interactions

Automatic Redial (ARDL)

When an ARDL call is not accepted by the calling party, the Privacy Release (PRS) key is ignored if pressed.

Dial Access to Group Calls Group Call

The Privacy Release feature cannot be applied to a Group Call.

Exclusive Hold

If the telephone with Privacy Release has Exclusive Hold Allowed in the Class of Service, and a call is on hold, another telephone with that Multiple Appearance Directory Number (MADN) cannot access the call.

Feature packaging

Privacy Release is included in base system software.

Feature implementation

LD 11 – Allow/deny Privacy Release for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx PRS	Add a Privacy Release key. M2317 and M3000 telephones automatically assign the PRS key to key 28.

Feature operation

To allow someone with another appearance of the Directory Number (DN) to enter a call:

- 1 Press **Priv Rls**. All appearances of that DN flash. One other party can enter the call by pressing the flashing DN key that has the call.
- 2 You must press **Priv Rls** again to allow another appearance of the DN to enter the call.

Private Line Service

Private Line Service enables the customer to assign private Central Office (CO) lines to selected telephones or power fail transfer equipment. When associated with a Meridian 1 proprietary telephone, the following features are available to Private Line Service:

- Automatic Dialing
- Automatic Preselection
- Call Pickup
- Call Transfer
- Call Status
- Conference
- Common Audible Signaling
- Hold
- Multiple appearance single call arrangement
- Prime Directory Number
- Privacy
- Privacy Release
- Release, and
- Analog (500/2500 type) /SL-1 telephone mix.

Operating parameters

Single line telephones with Private Line Service cannot access Meridian 1 Option 11C Compact features.

A maximum of 126 Private Lines are available per customer.

512 Private Line trunk routes can be defined.

A Private Line should not be assigned as a Prime Directory Number (DN) unless preselection is required.

Hunting does not apply to Private Line service.

Call Forward on Private Lines (Meridian 1 proprietary telephones) is not forwarded to a second appearance of its own DN.

Feature interactions

Call Modification Features (CMF) in the trunk data block can be inhibited as follows:

- Call Transfer
- Conference
- Call Forward
- Message Center
- Call Forward No Answer
Call Forward No Answer is always inhibited on Private Lines.
- Multiple appearance
For multiple appearance calls, call modification cannot be blocked.

Automatic Redial (ARDL)

ARDL call can be activated on a Private Line Service key. The call can only be redialed when the calling party's PVR or PVN key is free.

Calling Party Privacy

The Private Line Service feature will output the Privacy Indicator only if it is dialed by the originator. An asterisk will be output to the far end only if it is an Outputting of Asterisk and Octothorpe (OPAO) call, otherwise the asterisk signals a three-second pause.

Feature packaging

Private Line Service is included in system software.

Feature implementation

LD 16 – Add or change a Private Line trunk route.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
ROUT	0-511	Route number.
TKTP	COT	Central Office trunk.
PRIV	YES	Route is a Private Line route.
ICOG	IAO	Incoming and outgoing route.

LD 14 – Add or change Private Line trunks in the Private Line trunk route.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	COT	Central Office trunk.
TN	c u	Terminal Number.
XTRK	XUT, XEM	Universal Trunk Card
PRDN	xxx...x	Private Line phantom DN.
CMF	(NO), YES	Call modification is or is not inhibited for private line.

LD 10 – Add or change Private Line Service for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
DN	xxx...x	Private Line DN (xxx...x is the same as for PRDN prompt in LD 14).

LD 11 – Add or change Private Line Service for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 200, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx PVN yyy...y	Private Line non-ringing key (yyy...y is the same as for PRDN prompt in LD 14).
	xx PVR yyy...y	Private Line ringing key (yyy...y is the same as for PRDN prompt in LD 14).

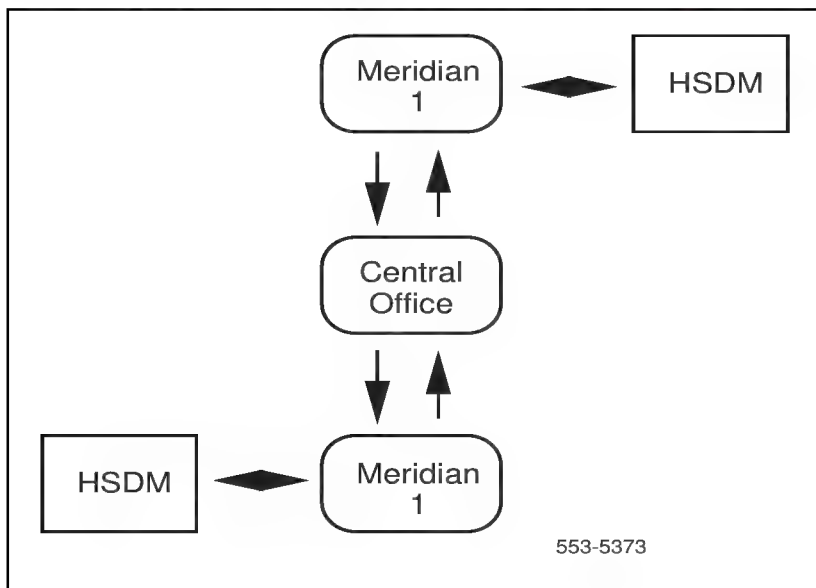
Feature operation

No specific operating procedures are required to use this feature.

Public Switched Data Service

The Public Switched Data Service (PSDS) allows you to receive data on your Meridian 1 Option 11C Compact at 56 kbps over Digital Trunk Interface (DTI) trunks and at 64 kbps over an Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI) channel. See [Figure 10](#).

Figure 10
Public Switched Data Service (PSDS) between Meridian 1 Option 11C Compact and Central Office (CO)



You can install a T1 link to different vendors and use the Meridian 1 Communications Adapter (MCA) or QMT21 High Speed Data Module to initiate or receive a 56 kbps digital data call. The digital data call then transports across the vendor's digital network to another Meridian 1 Option 11C Compact or an SL-100.

Operating parameters

PSDS calls are supported in the following situations:

- a Meridian 1 Option 11C Compact and the Central Office (CO)
- a tandem call from an SL-100 to a Meridian 1 Option 11C Compact
- a Meridian 1 Option 11C Compact and other PSDS-compatible switches.

The PSDS supports Digital Trunk Interface (DTI) type trunks, TIE and DID/DOD trunks, and Electronic TIE Network (ETN) compatible signaling.

End-to-End DTI network

For all Meridian 1 Option 11C Compact networks (Point to Point), users can access the existing data facility in the Meridian 1 Option 11C Compact to support data calls, or they can select the Switched 56 data mode. For mixed-vendor private networks, users can only select the PSDS mode.

Feature interactions

ISDN PRI

The following routes are possible using this feature on Primary Rate Access:

- Point to Point access
For Point to Point access of TIE trunks, the software can be modified to handle the requirements of this feature.
- Tandem call
For tandem access, additional information on this feature is needed, or the data call can be defined as a voice call.

- DID/FEX/WATS/Accunet
The Meridian 1 Option 11C Compact supports PSDS data calls to these trunk types.
- Public Network hop off
Signaling is provided to inform the tandem switch about the PSDS data call.

Feature packaging

Public Switched Data Service is included in base system software.

Feature implementation

The data selection (DSEL) in the Route Data Block can be defined as voice calls only (VCE), data calls only (DTA), or voice and data calls (VOD). The call can be defined as voice calls, regular data calls, or PSDS calls. Refer to the *input/output guide* to configure the Route Data Block.

Feature operation

Originating data calls

For direct access, dial the regular seven-digit or 10-digit number.

For special route access, dial a route access code after hearing a dial tone.

Receiving data calls

Calls are answered automatically.

An auto-answer call is answered by the data module, and no special operation is necessary.

Related features

When using Public Switched Data Service, you may want to refer to the following features.

Meridian Communications Adapter (MCA)

The Meridian Communications Adapter (MCA) allows asynchronous ASCII terminals, personal computers, and printers to be connected to the telephone using an RS-232C or V.35 interface. With Release 14 and later, the MCA also allows synchronous applications (DTEs such as video conferencing equipment and Group IV fax units) to be connected to the telephone. Refer to *Meridian Communications Unit and Meridian Communications Adapter description, installation, administration, operation* (553-2731-109) for detailed information on the MCA.

Meridian Communications Unit (MCU)

The Meridian Communications Unit (MCU) provides a standalone version of the Meridian Communications Adapter (MCA).

The Meridian Communications Unit (MCU) allows you to transmit and receive data using either PSDS over the public network or a private network. The MCU, which replaces the QMT21C, is designed for domestic and international use, with transmission speeds up to 19.2 kbps asynchronous, and 64 kbps synchronous, integrated display, and self diagnostics. The MCU supports autodialing, ring again, and speed calling, as well as autobauding and automatic parity detection. You can use the MCU for:

- Video conferencing
- LAN bridging
- Bulk data/PC file transfer
- Dial back-up, and
- Host connectivity.

The MCU fully complies with RS-232C and can be configured as DCE or DTE to connect to a terminal, printer, or fax machine.

Unlike the MCA, the MCU provides a dedicated call key and call progress tones. The MCU also permits smart modem pooling.

The MCU supports the DM-DM, T-Link, V.25 bis, and PSDS interfaces as well as the RS-232C, CCITT V.35, CCITT V.24, and RS570/RS3449 (with different cables) interfaces. It complies with V.28 for European approval.

Refer to *Meridian Communications Unit and Meridian Communications Adapter description, installation, administration, operation* (553-2731-109) for detailed information on this feature.

Transparent Data Networking (TDN)

Transparent Data Networking provides a transparent data channel for data modules to perform end-to-end protocol exchange. This means that two data modules will wait for a circuit path to be established before exchanging protocol parameters.

The data modules and protocols that are supported by TDN are:

- Meridian Communications Adapter (MCA) card in a Meridian Modular telephone (MMT) set, which uses PSDS and T-Link protocols on external calls
- Meridian Communications Unit (MCU), a standalone version of the MCA, which uses T-Link and PSDS protocols on external calls
- Basic Rate Interface (BRI) telephones, which use T-Link, V.110, and V.120 protocols, and
- High Speed Data Module (HSDM) when configured to use PSDS.

Refer to *Transparent Data Networking* (553-2731-110) for detailed information on TDN.

Recall after Parking

This enhancement to the Call Park feature causes a parked call to be recalled to the attendant or night DN if the attendant is in Night Service, rather than to the parking set, if not answered within a customer-defined period of time (two-minute maximum). The call may be external or internal.

Operating parameters

This enhancement does not apply to calls parked by Automatic Call Distribution (ACD) agents.

This enhancement operates in a standalone, but not a in network environment.

Feature interactions

There are no interactions with other features.

Feature packaging

Recall After Parking feature is included in Call Park (CPRK) package 33.

Feature implementation

LD 50 – Configure Recall after Parking.

Prompt	Response	Description
...		
CPTM	30-(45)-240	Call Park Timer (in seconds). The amount of time a call is held in the parked state before recalling the parking set or the attendant.
RECA	(NO), YES	Recall Attendant. YES = unanswered parked calls recall the attendant. NO = unanswered park calls recall the parking set.

Feature operation

The recall to the attendant appears on the Recall ICI key. If the attendant is in Night Service, the recall occurs to the Night DN. If the Night DN is busy, the external calls are queued.

Recorded Announcement

The Recorded Announcement (RAN) feature allows the Meridian 1 Option 11C Compact to connect calls automatically to a customer-provided Recorded Announcement machine. Recorded Announcements can be used for:

- Automatic Call Distribution (ACD)
- Automatic Wake Up
- Intercept Treatment (INTR)
- Recorded Overflow Announcements (ROAs), and
- Network Queuing feature, which has Call Back Queuing (CBQ), Coordinated Call Back Queuing (CCBQ), Call Back Queuing to Conventional Main (CBQCM), and Off-Hook Queuing (OHQ).

The system software detects calls to connect to the Recorded Announcement (RAN) machine, determines the Intercept Treatment required, and connects the call to the proper Recorded Announcement. The system then monitors the RAN machine.

The Meridian 1 Option 11C Compact provides the software programs to control the announcement recorder and the circuit packs. Operating parameters

Dial access to RAN trunk groups is allowed and is limited only by Trunk Group Access Restrictions (TGARs).

Feature interactions

Conference

No Hold Conference

A RAN trunk cannot be Conferenced or No Hold Conferenced.

Recovery on Miss-operation of Attendant Console

If a Recorded Announcement is given to the destination side that has been intercepted, the connection to the destination side is considered as invalid. Therefore, if the attendant tries to extend the source to the destination using the RELEASE key or another LOOP key, the operation is ignored. The attendant must first press the RELEASE DESTINATION key to release the destination, and then extend the call to the source. If the HOLD key is pressed, the source party is put on hold and the Recorded Announcement is disconnected on the destination side.

Trunk Traffic Reporting Enhancement

The Trunk Seizure Option is not supported on this type of trunk.

Feature packaging

Recorded Announcement (RAN) is package 7, which requires Intercept Treatment (INTR) package 11.

Feature implementation

LD 16 – Add or change Recorded Announcement (RAN) trunk route.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
ROUT	0-511	Route number.
TKTP	RAN	RAN trunks.
RTYP	CAP	Code-a-Phone recording device. Software allows announcements of up to 608 seconds in length.
	AUD	Audichron recording device (required when connecting to a Universal Trunk Card). Software allows announcements of up to 64 seconds.
	CK2	Cook Electric recording device. Software allows announcements of up to 64 seconds.
	DGT	Digital Recorders 213300 & 213400. Software allows announcements of up to 256 seconds.
	CON	NT7M series digital recorders.
REP	1-15	Number of times the announcement repeats during each connection.
POST	ATT	Call is routed to attendant after specified number of repetitions (applies to Direct Inward Dial [DID] calls on Intercept).
	DIS	RAN is removed after a specified number of repetitions.
STRT	IMM	Call connects immediately to announcement.
	DDL	Call connects at the start of announcement.
ASUP	(NO), YES	Supervision (is not) or is required to inform the Central Office (CO) when the call is answered.
ACOD	xxx...x	Trunk route access code.
Note: All RAN route members must be removed before the route can be removed.		

LD 14 – Add or change Recorded Announcement (RAN) trunk.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	RAN	RAN trunk data block.
TN	c u	Terminal Number.
CUST	0	Customer Number (prompted if REQ = NEW).
RTMB	xxx yyy	Route and member number, where: xxx = 0-511, and yyy = 1-254.

Note: If a night table is used with Network Automatic Call Distribution (NACD), the FROA and FRT values in LD 23 need to be set for the Recorded Announcement feature. FROA should be “NO” and FRT should be four seconds greater than the last entry time of the night table.

Feature operation

No specific operating procedures are required to use this feature.

Recorded Overflow Announcement

Recorded Overflow Announcement (ROA) allows delayed calls to the attendant to be connected to a recorded announcement notifying the calling party of the delay. A second recorded message can also be provided to the calling party repeatedly until an attendant answers the call.

A call that is waiting in the queue receives the first recorded message after the expiration of a timer (T1). After the message is given, the call returns to the attendant queue. While the call is in the waiting state, it can be connected either to Music (MUS), Ringback tone (RGB), or Silence (SIL).

If a second recorded announcement is specified, the call receives the message upon expiration of a second timer (T2). After the second message is given, the call is placed in the attendant queue again. There is no limit to the number of times a call can be given the second recorded message.

Operating parameters

Recorded Overflow Announcement (ROA) treatment is provided to call types assigned to Incoming Call Indicator (ICI) keys on the Attendant Console.

A maximum of 20 ICI keys can be assigned to receive Recorded Overflow Announcement (ROA) treatment.

The delay time thresholds for the first and second recorded announcements (T1 and T2) are assigned in LD 15. The thresholds shown in [Table 20](#) can be defined for these timers.

Table 20
Delay time thresholds

	Thresholds		
	Minimum	Default	Maximum
T1	0 seconds	20 seconds	2,044 seconds
T2	0 seconds	40 seconds	2,044 seconds

Loop start trunks do not provide disconnect supervision and are not recommended for use with the ROA feature. A call on a loop start trunk that is abandoned after the recorded message is given must be manually cleared by the attendant.

ROA is not provided on release link trunks from Centralized Attendant Service (CAS) remote locations.

When the CAS feature is activated at a remote PBX, the ROA feature is inactive at the remote site.

If music is required, the Music (MUS) package 44 must be equipped. Music can be provided after the first and second Recorded Announcement (RAN). A customer provided music source is required, connected through a Music trunk. Music is provided to delayed calls through a conference circuit pack in a listen-only mode. The music source provided by the customer must be compatible with the RAN trunk card.

Private Lines are not eligible for ROA.

ROA is only provided for call types assigned to Incoming Call Indicator (ICI) keys. The following call types are eligible, if related ICI keys are assigned:

- Trunk routes
- LDN 0 through LDN 3
- Dial 0

- Dial 0 Fully Restricted
- Intercept Treatment (INTR)
- Call Forward Busy
- Call Forward No Answer
- Message Waiting (MW)
- Lockout, and
- Station Category Indication (SCI).

Feature interactions

Automatic Call Distribution (ACD)

The RAN route used for ROA can be the same route that is used for ACD and Intercept Treatment.

Night Service

The ROA feature is inactive when the system is in Night Service.

Feature packaging

Recorded Overflow Announcement (ROA) package 36 requires Recorded Announcement (RAN) package 7.

Feature Implementation

LD 16 – Add or change Recorded Announcement (RAN) trunk route.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
ROUT	0-511	Route number.
TKTP	RAN	RAN trunks.
RTYP	CAP	Code-a-Phone recording device. Software allows announcements of up to 608 seconds in length.
	AUD	Audichron recording device (required when connecting to a Universal Trunk Card). Announcements of up to 64 seconds.
	CK2	Cook Electric recording device. Announcements of up to 64 seconds.
	DGT	Digital Recorders 213300 & 213400. Announcements of up to 256 seconds.
	CON	NT7M series digital recorders.
REP	1-15	Number of times the announcement repeats.
POST	ATT	Call is routed to attendant after specified number of repetitions (applies to Direct Inward Dial [DID] calls on Intercept).
	DIS	RAN is removed after a specified number of repetitions (call is kept in Automatic Call Distribution queue).
STRT	IMM	Call connects immediately to announcement.
	DDL	Call connects at the start of announcement.
ASUP	(NO), YES	Supervision (is not) or is required to inform the Central Office (CO) when the call is answered.
ACOD	xxx...x	Trunk route access code.
Note: All RAN route members must be removed before the route can be removed.		

LD 14 – Add or change Recorded Announcement (RAN) trunk.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	RAN	RAN trunk data block.
TN	c u	Terminal Number.
CUST	0	Customer number (prompted if REQ = NEW).
RTMB	xxx yyy	Route and member number, where: xxx = 0-511, and yyy = 1-254.

LD 15 – Enable a Recorded Announcement (RAN) route for the customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ROA	Customer Data Block. Gate opener.
CUST	0	Customer number.
OPT	(ROX), ROI	Recorded Overflow (excluded) included.
- FRRT	xxx	Route number for the first recorded announcement.
- FRT	0-(20)-2044	Time in seconds before the first announcement plays.
- SRRT	xxx	Route number for the second recorded announcement.
- SRT	0-(40)-2044	Time in seconds before second announcement plays.
- WAIT	RGB, MUS, SIL	Caller hears Ringback (RGB), Music (MUS), or Silence (SIL) while waiting.
- - MURT	xxx	Route Number for Music route if WAIT = MUS.
- RIC1	xx . .xx . .xx	Incoming Call Indicator (ICI) key numbers eligible for ROA.

Feature operation

No specific operating procedures are required to use this feature.

Recorded Telephone Dictation

This feature provides dial access to customer-supplied dictation equipment. Operation of the equipment can be either voice or dial controlled. The actual controls vary with the type of dictation equipment used.

To access the dictation equipment, the user dials the access code assigned to the dictation route. Access to the route is controlled by Trunk Group Access Restrictions (TGARs).

Operating parameters

Each recorded dictation unit requires a separate trunk route.

Feature interactions

Multi-Party Operations

Users of analog (500/2500 type) telephones cannot make a consultation call while connected to a dictation trunk.

Feature packaging

Recorded Telephone Dictation is included in base system software.

Feature implementation

LD 16 – Add or change a trunk route for the Recorded Telephone Dictation feature.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
ROUT	0-511	Route number.
TKTP	DIC	Recorded Telephone Dictation trunk route.
ICOG	OGT	Outgoing trunk route.
ACOD	xxx...x	Directory Number (DN) to dial to access the dictation device.

LD 14 – Add or change a trunk for the Recorded Telephone Dictation feature.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
TN	c u	Terminal Number.
CUST	0	Customer number.
RTMB	rrr mm	Route and member number.
SIGL	aaa	Trunk signaling.
STRO	aaa	Outgoing start arrangement.
SUPN	(NO), YES	Answer and disconnect supervision (not) required.

Feature operation

No specific operating procedures are required to use this feature.

Recovery on Misoperation of Attendant Console

The Recovery of Misoperation on the Attendant Console feature provides a safeguard in the Meridian 1 Option 11C Compact software that prevents calls from being inadvertently disconnected.

Operating parameters

For Centralized Attendant Service, misoperation of the Attendant Console at the main node cannot be prevented.

Feature interactions

Electronic Switched Network (ESN)

If the attendant dials an incomplete ESN number as a destination, pressing the Release key or another loop key is ignored. The attendant can dial more digits as long as the interdigit timer has not timed out. To dial to another number, the attendant must first press the Release Destination key to release the destination.

Hunting

Call Forward

Hunting and Call Forward take precedence over the Misoperation feature.

Music on Hold

Music on Hold, if allowed, is applied to calls put on hold due to the Autohold on the loop key option.

Recorded Announcement

If a recorded announcement is given to the destination side that has been intercepted, the connection to the destination side is considered as invalid. Therefore, if the attendant tries to extend the source to the destination using the Release key or another loop key, the operation is ignored. The attendant must first press the Release Destination key to release the destination, and then extend the call to the source. If the Hold key is pressed, the source party is put on hold and the recorded announcement is disconnected on the destination side.

Through Dialing

If an attendant dials a trunk access code and then presses the Release key or another loop key, the station on the source side and the trunk on the destination side are connected and released from the console. The source can then dial the remaining digits to access an outside destination. The Hold key is ignored.

Feature packaging

Recovery on Misoperation of Attendant Console is included in base system software.

Feature implementation

LD 15 – Activate Recovery on Misoperation of Attendant Console.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
OPT	(AHD), AHA (REA), RED	Autohold on loop Key (denied) allowed. Release on Exclusion (allowed) denied.

Feature operation

This section describes how the feature works in each of the following cases:

- Misoperation of Release key and loop keys
- Misoperation of Autohold on loop key
- Misoperation of Release Source key and Release Destination key.

Misoperation of Release key and loop keys

In the following cases, pressing the Release key or the loop key is ignored:

- Extending a call to a vacant number
- Extending a call to restricted station or trunk
- Extending to a station restricted by Trunk Barring

Note: Intercept treatment is returned for the above conditions.

- Extending to a partially-dialed number
- Extending a network-blocked call
- Extending a station in the Do Not Disturb mode
- Extending to a station in the Make Set Busy mode
- Extending to a station in the Maintenance-busy state
- Extending to a station in the Line Lockout state
- Extending to a busy extension without Camp-on or Call Waiting
- Extending to a station restricted by Trunk-to-Trunk Connection Restriction
- Releasing from a conference connection – The attendant is prevented from releasing a conference connection, established on the source side, by pressing the Release key or a loop key in the following cases:
 - if there is no destination. Pressing either the Release key or a loop key places the active loop on hold rather than releasing it. The conference can be released by pressing the Release Source key.
 - if the attempt to extend the call to the destination was not successful. The conference can be released by pressing the Release Destination key.

- if there is another party already connected as a destination. Pressing the Hold key, Release key or another loop key puts the active loop on hold, rather than releasing it. The destination side can be released by pressing the Release Destination key. The source side can be released by pressing the Release Source key. If an established conference connection cannot be released due to Trunk-to-Trunk Connection Restriction, pressing the Release Source key causes the conference to be released from the console and the trunks disconnected.

Note: Busy tone or overflow tone is returned for the above conditions.

Misoperation of Autohold on the loop key

On a console that is equipped with the Autohold on loop key option, if the attendant is on a call that has terminated properly and presses the loop key while switching to another call, the active loop is placed on hold rather than being released. Besides preventing the inadvertent release of the caller, this option allows the attendant to toggle between any number of held calls by having to press only one key. If the attendant is on a call that cannot be terminated properly, pressing another loop key releases the destination side and puts the source side on hold.

In the following cases, pressing the Release key or the loop key places the call on hold rather than releasing it.

- Extending to a busy extension without Camp-on or Call Waiting, or
- Extending to a station restricted by Trunk-to-Trunk Connection Restriction.

Misoperation of the Release Source/Release Destination key

This option allows the Meridian 1 Option 11C Compact system to ignore the pressing of the Release Source or Release Destination key, preventing the release of either the excluded source or destination party, or a conference call connection. The source or destination party involved in a talking connection with the attendant may still be released by pressing the Release Source or Release Destination key, as appropriate. In a lockout situation, where both source and destination parties are excluded, the attendant may use either the Release Source or Release Destination key to disconnect both parties, since the attendant is not able to re-enter the connection.

Remote Call Forward

Remote Call Forward (RCFW) allows a telephone user to program Call Forward from a remote telephone. With Remote Call Forward (RCFW) enabled, forwarding DN's can be defined and Call Forward All Calls can be activated from within the Meridian 1 Option 11C Compact or outside the local switch. The Remote Call Forward (RCFW) feature is password protected.

The Station Control Password (SCPW) is required to program Remote Call Forward. Entering a password length of 0 disables the password control for both Electronic Lock and RCFW.

Operating parameters

RCFW requires the following:

- set the password length in LD 15, at the SCPL prompt
- add passwords in LD 10 and LD 11, at the SCPW prompt
- allow Call Forward All Calls in LD 10 and LD 11, and
- define Remote Call Forward Activate (RCFA), Deactivate (RCFD), and Verify (RCFV) Flexible Feature Codes (FFC) in LD 57.

To activate RCFW from outside of the local switch, you must use the Direct Inward System Access (DISA) DN. The telephone's Prime DN is associated with the RCFW password for added security. Also, RCFW can activate or deactivate Call Forward on a telephone, and verify the same feature on a telephone.

Changes to the Station Control Password length do not take effect until after a data dump and SYSLOAD.

If there are two telephones with the same Prime DN, it is recommended that only one of them have a Station Control Password. With RCFW, it is possible that two telephones could have the same password assigned. With the same password, they could control each other's security. For the same reason, the Secondary DN for an Automatic Call Distribution (ACD) telephone should not appear as a Prime DN on another telephone.

A unique number code must be programmed for each of the FFC functions relating to RCFW: Remote Call Forward Activate (RCFA), Remote Call Forward Deactivate (RCFD), and Remote Call Forward Verify (RCFV). You can change the RCFW Directory Number (DN) from your own telephone or from a telephone remote from the switch.

RCFW is not supported for ACD telephones.

Feature interactions

Attendant Administration

Attendant Administration does not support the telephone programming associated with Remote Call Forward.

Enhanced Flexible Feature Codes - Outgoing Call Barring

Activation of CFW to a barred DN by Remote Call Forward will be permitted, since the user has had to dial the Station Control Password, which could also have been used to deactivate Outgoing Call Barring (OCB).

Multiple Appearance Directory Number

With a Multiple Appearance Directory Number (DN) and both sets having a Station Control Password (SCPW), Remote Call Forward may not operate as intended (i.e., if Call Forward has been activated using the Remote Call Forward feature, Call Forward remains activated when an attempt to deactivate it is made from the set on which it is active).

Phantom Terminal Numbers (TNs)

If Remote Call Forward is to be used in conjunction with a Phantom TN, the Phantom TNs must be configured with the Call Forward All Calls (CFW) feature.

Call Forward Destination Deactivation

Remote Call Forward (RCFW) and Call Forward Destination Deactivation (CFDD) provide the same functionality but are activated differently. CFDD does not require the call forward station's control password to deactivate the call forward functionality on the call forward station.

The call forwarded destination can use the Remote Call Forward deactivation FFC as well as CFDD to deactivate the Call Forward All Calls functionality on the call forward station.

Set-Based Administration Enhancements

A set may be remote call forwarded while someone is actively logged into it with Set-Based Administration login.

Feature packaging

The following software packages are required to implement Remote Call Forward:

- Optional Features (OPTF) package 1
- Flexible Feature Codes (FFC) package 139, and
- Controlled Class of Service (CCOS) package 81.

In addition, the following software packages are required to implement RCFW on analog (500/2500 type) telephones:

- Special Service for 2500 (SS25) package 18, and
- 500 Set Dial Access to Features (SS5) package 73.

Feature implementation

LD 15 – Set the Station Control Password length.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FFC	Customer Data Block. Gate opener.
CUST	0	Customer number.
...		
- SCPL	0-8	Station control password length (0-8). Entering 0 disables the Remote Call Forward and the Electronic Lock features. Note: A data dump and SYSLOAD are required to implement a change in password length. Shorter passwords are filled with leading zeros. Passwords that are too long have the leading digits truncated.
- FFCS	YES	Change end of dialing digits in FFC.
- - STRL	1-3	Number of digits to indicate FFC end of a feature activation.
- - STRG	(#), xxx	1 to 3 digits to indicate FFC end of a feature entry.

LD 57 – Define Remote Call Forward FFCs.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Flexible Feature Codes.
FFCT	(NO), YES	FFC Confirmation Tone (optional).
CODE	RCFA	Remote Call Forward Activate.
RCFA	xx	RCFA code
CODE	RCFD	Remote Call Forward Deactivate.
RCFD	xx	RCFD code.
CODE	RCFV	Remote Call Forward Verify.
RCFV	xx	RCFV code.

LD 10 – Set the Station Control Password for Analog (500/2500 type) telephones and allow Call Forward.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
SCPW	xxx...x	Station control password (0-8 digits as defined by prompt SCPL in LD 15).
	X	Entering X deletes the password.
FTR	CFW 4-(16)-23	Allow Call Forward and set forwarding DN length.

LD 11 – Set the Station Control Password for Meridian 1 proprietary telephones and allow Call Forward.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
SCPW	xxx...x	Station control password (0-8 digits as defined by prompt SCPL in LD 15).
	X	Entering X deletes the password.
KEY	xx CFW 4-(16)-23	Assign Call Forward key (xx) and set forwarding DN length.

Feature operation

From any telephone within the system, simply lift the handset and use the following procedures. From any telephone outside the system, first dial the Direct Inward System Access (DISA) number for your system, wait for dial tone, and dial any required passwords and Authorization Codes.

- 1 Dial the Remote Call Forward Activate FFC.
- 2 Dial the Station Control Password for the telephone to be forwarded.
- 3 Dial the Prime DN of the telephone to be forwarded.
- 4 Dial the number to which calls will be forwarded.
- 5 Dial the end-of-entry digit(s) (defined in LD 15), if these digits plus the number of digits in the forwarding DN are less than 24 digits. (If you do not dial the end-of-entry digits, the forwarding DN is saved but cannot be verified remotely.)

You may hear a confirmation tone after entering the main extension number, telling you that the password and extension match. You may hear a second special tone after dialing the end-of-entry digits, telling you that the procedure was successful. If you hear a fast busy signal, hang up and try again.

When entering the forwarding DN, you cannot enter more than 23 digits, including the end-of-entry digits. If you attempt to enter a 24th digit, you will hear an overflow tone.

If the forwarding DN plus the end-of-entry digits are not less than 24 digits, hang up after dialing the forwarding DN. The DN is saved but cannot be verified remotely.

To cancel Remote Call Forward:

- 1** Dial the Remote Call Forward Deactivate FFC.
- 2** Dial the Station Control Password for the telephone.
- 3** Dial the Prime DN of the telephone.

To verify Remote Call Forward:

- 1** Dial the Remote Call Forward Verify FFC.
- 2** Dial the Station Control Password for the telephone.
- 3** Dial the Prime DN of the telephone.
- 4** Dial the number to which calls should be forwarded.
- 5** Dial the end-of-entry digit(s).

If the number to which the telephone is forwarding calls does not match your entry in step 4, you will hear a fast busy signal. If the numbers do match, you will hear a confirmation tone after entering the forwarding number, provided the confirmation tone is enabled in LD 57.

When entering the forwarding DN, you cannot enter more than 23 digits, including the end-of-entry digits. If you attempt to enter a 24th digit, you will hear an overflow tone. You cannot use Remote Call Forward Verify for a forwarding DN that was entered without the end-of-entry digits because of too many digits.

Ring Again

Ring Again gives you the opportunity, after encountering a busy Directory Number (DN), to ring the DN again when it becomes free. If a dialed DN is busy, or if all the trunks are busy, pressing the Ring Again key asks the system to monitor the dialed DN or trunk. When it becomes available, the system notifies you. The call is automatically dialed again when you press the Ring Again key a second time.

When the system alerts you to Ring Again, you have a limited amount of time to respond. Analog (500/2500 type) telephones have six seconds, while Meridian 1 proprietary telephones have 30 seconds.

Operating parameters

A key/lamp pair must be assigned to Meridian 1 proprietary telephones for Ring Again. M3000 and M2317 telephones access Ring Again with a softkey.

Several people can activate Ring Again against the same DN while it is busy. When the DN becomes free, the system notifies the first person in line.

For analog (500/2500 type) telephones, a Special Prefix (SPRE) or Flexible Feature Code (FFC) may be used.

Feature interactions

Attendant Blocking of Directory Number

It is possible to activate Ring Again towards a DN that is blocked due to the Attendant Blocking of DN feature.

Basic/Network Alternate Route Selection (BARS/NARS)

If the system is equipped with BARS or NARS, the Ring Again feature is used with the Call Back Queuing option to queue for outgoing trunks.

Calling Party Privacy

A call automatically redialed by the Ring Again – Busy Trunk feature will respect the Calling Party Privacy requested when the call was originally dialed.

Dial Access to Group Calls

Group Call

Ring Again cannot be applied to a Group Call.

Enhanced Flexible Feature Codes - Outgoing Call Barring

Ring Again cannot be activated after a call is barred by Outgoing Call Barring (OCB). Sets with display will not offer Ring Again.

Enhanced Override

Ring Again is the only other feature currently available once a busy telephone has been encountered. Ring Again is not allowed on an analog (500/2500 type) telephone making a Multi-Party Operations consultation call.

ISDN QSIG Call Completion

Analog (500/2500 type) sets can have only one Call Completion to Busy Subscriber request at a given time. Meridian 1 proprietary sets can make Ring Again requests based on the number of Ring Again keys programmed on a set.

Multi-Party Operations

Ring Again is not allowed if the user of an analog (500/2500 type) telephone has a call on hold and receives a busy signal when calling a second party.

Preference Trunk Usage

Searching for an available trunk via the Ring Again feature is subject to the Preference Trunk Usage feature at trunk seizure time. Earlier trunk availability checks are not carried out.

Priority Override

Ring Again is the only other feature currently available once a busy telephone has been encountered. Ring Again is not allowed on an analog (500/2500 type) telephone making a Multi-Party Operations consultation call.

Feature packaging

Ring Again is included in Optional Features (OPTF) package 1 and has no feature package dependencies.

Feature implementation

LD 10 – Add or change Ring Again for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(XRD), XRA	Ring Again is (denied) or allowed.

LD 11 – Add or change Ring Again for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx RGA	Ring Again key, where: xx = key number (must be key 27 for M2317 or M3000).

Feature operation

Ring Again is slightly different for each telephone type. Be sure to follow the correct operating instructions.

Meridian 1 proprietary telephones

To activate Ring Again after hearing a busy signal:

- 1 Press **Ring Again**.
- 2 Hang up, or press **RLs**.
- 3 When you hear the Ring Again tone, lift the handset or select a free **DN**.
- 4 Press **Ring Again**. The number is automatically dialed.

To cancel Ring Again:

- Press **Ring Again** before you hear the notification tone.

M3000 Touchphone

To activate Ring Again after hearing a busy signal:

- 1 Press **Ring Again**.
- 2 Hang up, or press **RLs**.
- 3 When you hear the Ring Again tone, lift the handset or select a free **DN**.
- 4 Touch **Connect**. The number is automatically dialed.

To cancel Ring Again:

- Press **Ring Again** before you hear the notification tone.

M2317 telephone

To activate Ring Again after hearing a busy signal:

- 1 Press **RINGAGN**.
- 2 Hang up, or press **RLs**.
- 3 When you hear the Ring Again tone, lift the handset or select a free **DN**.
- 4 Press **Call** . The number is automatically dialed.

To cancel Ring Again:

- Press **Call**  before you hear the notification tone.

Analog (500/2500 type) telephones

To activate Ring Again after hearing a busy signal:

- 1** Flash the switchhook or press **LINK**.
- 2** Dial SPRE+1, or the Flexible Feature Code (FFC) assigned.
- 3** When you hear the Ring Again tone bursts, lift the handset while you still hear the ringing. The number is automatically dialed.

To cancel Ring Again:

- Before you hear the notification tone, lift the handset and dial SPRE +2, or the FFC assigned, and hang up.

Ring Again on No Answer

The Ring Again No Answer (RANA) feature extends the capabilities of Ring Again for standalone applications, and Network Ring Again for Integrated Services Digital Network (ISDN) applications. The feature allows Ring Again to be applied to a station that does not answer.

This feature applies to Meridian 1 proprietary telephones, as well as analog (500/2500 type) telephones.

Users of Meridian 1 proprietary telephones, upon encountering a station that does not answer, can activate RANA by pressing the Ring Again (RGA) key. When the desired station goes off-hook, to make or receive a call, and then goes on-hook, the station that activated RGA receives a buzz through the telephone's loudspeaker (while the RGA lamp flashes, if that station is idle). The station user can dial the desired station by lifting the handset or pressing a DN key, and then pressing the RGA key.

Users of analog (500/2500 type) telephones, upon encountering a station that does not answer, can activate RANA by performing a recall, and then dialing the Ring Again Activate Flexible Feature Code, or dialing SPRE then the digit 1. After receiving confirmation dial tone, the user goes on-hook to make or receive calls as usual. When the desired station goes off-hook, to make or receive a call, and then goes on-hook, the station that activated RGA receives six ring cycles as a Ring Again notification (if the station is idle). To dial the desired party, the station user has to go off-hook before the six-ring cycle ends. If the desired party goes off-hook while RANA is being applied, Ring Again Busy is activated instead of RANA.

To deactivate RANA from an analog (500/2500 type) telephone, the user goes off-hook and dials the Deactivate Ring Again or the Deactivate Feature Flexible Feature Code, or dials SPRE then the digit 2.

This feature is described more fully in 553-2921-100 and 553-2901-101 for the ISDN environment.

Operating parameters

Ring Again on No Answer cannot be applied:

- if the dialed DN is a Pilot DN
- to Attendant Consoles
- to a station which has been intercepted to the attendant
- to a station which is queued for an attendant
- to a station which has been recalled to an attendant due to misoperation
- to Automatic Call Distribution (ACD) stations
- to a station with Radio Paging active, and
- to trunks.

Meridian 1 proprietary telephones must be equipped with a Ring Again (RGA) key/lamp combination.

Ring Again on No Answer is applied to the originally dialed DN only.

Feature interactions

Call Forward (All Calls)

Call Forward No Answer

If an unanswered call is forwarded to another station by any of these features, RANA is applied to the originally dialed station.

Group Hunting

RANA cannot be applied if the DN dialed was a Pilot DN.

Hunting

If RANA has been applied to a station going through a Hunt sequence, Ring Again is applied to that station and not the ringing station.

Intercept to Attendant

RANA cannot be applied by a set that is intercepted to the attendant.

ISDN QSIG Call Completion

Analog (500/2500 type) sets can have only one Call Completion to Busy Subscriber request at a given time. Meridian 1 proprietary sets can make Ring Again requests based on the number of Ring Again keys programmed on a set.

Multiple Appearance Directory Number

The Ring Again on No Answer feature will only function on Multiple Appearance Directory Numbers that have been assigned to two different sets provided that both users, with the Ring Again on No Answer activated, go off-hook to make a call and then go on-hook. If both users do not go off-hook then the originator will not receive a buzz through the loudspeaker.

M2317 and M3000 Telephones

For RANA to function on M2317 and M3000 telephones, the telephones must be configured with a Ring Again (RGA) key. The Ring Again “soft key” will only be displayed when a busy call is encountered and will not be displayed during ring no answer.

Phantom Terminal Numbers (TNs)

Although RANA can be applied to a phantom DN, it is not recommended. Because a phantom DN cannot be active or busy, the caller is not notified when the phantom DN’s forward DN does not answer.

Queued Calls

RANA cannot be applied by a set which is being queued for the attendant or is in the attendant queue during Night Service.

Recall to Attendant due to Misoperation

RANA cannot be applied by a set that is recalling the attendant.

Feature packaging

For standalone applications, Ring Again No Answer is part of base system software.

Advanced ISDN Network Services (NTWK) package 148 for network applications.

Feature implementation

LD 15 – Define the Ring Again on No Answer setting.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
...		
OPT	(RND), RNA	Customer options. Ring Again on No Answer (denied) allowed.

LD 10 – Define Ring Again for Analog (500/2500 type) sets.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	500	Type of set. Analog (500/2500 type).
...		
CLS	(XRD), XRA	Class of Service options. Ring Again (denied) allowed.

LD 11 – Define Ring Again keys for sets.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
...		
KEY	RGA	Customer options. Ring Again on No Answer (denied) allowed.

Feature operation

Meridian 1 proprietary sets

Place and Accept Ring Again on No Answer

Action	Response
1. User A calls user B.	User A receives ringback tone.
2. User A presses the Ring Again (RGA) key.	Indicator associated RGA key turns on steadily.
3. User A either goes on-hook or presses the Release (RLS) key.	Indicator associated with RGA key remains on and user A is now free to receive or make other calls.
4. User B, the user against which Ring Again was placed, goes off-hook to make a call, and then back on-hook.	User A is given a short buzz through the loudspeaker and the indicator associated with the RGA key will begin to flash.
5. User A either picks up the handset or presses a DN key.	User A receives dial tone.
6. User A presses the RGA key.	The user against which the Ring Again was placed is rung and the indicator associated with the RGA key is turned off.

Cancel Ring Again No Answer

Action	Response
1. User A presses the RGA key.	The indicator associated with the RGA goes from flashing to off, and ring again is cancelled.

Analog (500/2500 type) Sets

In the following feature operation description, the term recall refers to performing a register recall which may be performed in a number of different ways. Some examples are:

- Flash the switch hook (i.e., the equivalent of hanging up the handset and picking it back up. This on-hook, off-hook is performed in a time period that is less than what the system would consider to be a valid disconnect).
- Press the flash or LINK button if equipped.

Place and Accept Ring Again No Answer

Action	Response
1. User A calls user B.	User A receives ringback tone.
2. User A performs a recall.	User B stops ringing and User A receives special dial tone.
Note: User B must be in a ringing state for more than two seconds before recall is allowed.	
3. User A dials either the Ring Again Activate (RGAA) Flexible Feature Code, or the Special Prefix (SPRE) code followed by the digit "1".	User A receives dial tone indicating that the Ring Again was successfully placed.
4. User A goes on-hook.	User A is now free to receive or make other calls.
5. User B, the user against which the Ring Again was placed, goes off-hook to make a call, and then goes back on-hook.	User A is given six cycles of ringing as notification.
6. If User A picks up the handset before all six ringing cycles are complete.	User B is rung.
7. If user A does not pick up the handset before all six ringing cycles are complete.	Ring Again is cancelled.

Cancel Ring Again No Answer

Action	Response
1. User A goes off-hook.	User A receives dial tone.
2. User A dials either the Ring Again Deactivate (RGAD) Flexible Feature Code, the Deactivate Feature (DEAF) FFC, or the Special Prefix (SPRE) code followed by the digit "2".	User A receives dial tone indicating that the Ring Again cancellation was successful.

Scheduled Access Restrictions

The Scheduled Access Restrictions (SAR) feature allows a customer to define Trunk Group Access Restrictions (TGAR), Class of Service (COS) restrictions, and Network Class of Service (NCOS) restrictions for different hours and days (typically off-hours and off-days). These TGAR, COS, and NCOS restrictions comprise SAR groups. Each customer may define up to 1000 SAR groups, and one of these groups can be assigned to each customer station or route. Up to eight time periods may be defined for each SAR group, and different restrictions may be applied to each time period.

SAR can be overridden on a single call basis for a station or route by using an authorization code or forced charge account. By using the SAR Disable (SADS), SAR Enable (SAEN), SAR Lock (SALK), or SAR Unlock (SAUN) Flexible Feature Codes these restrictions can be changed on a more permanent basis.

SADS returns the set/route to its normal restriction state. SAEN cancels SADS, returning the set to its SAR state. SALK will occur automatically at a predefined period of time or when the Lock command is dialed by the user. Lock restrictions remain in effect until an SAUN or SADS command is entered. The SALK command can be used on a customer basis or SAR group basis, depending on the authcode used.

Typically, the Flexible Feature Codes can be used to do the following:

- extend off-hour restrictions for weekends or holidays (SALK)
- return to the schedule of access restrictions (SAUN)
- extend normal restrictions into the off-hour period for after hour services (SADS)
- cancel this after hour service (SAEN)

- cause off-hour restrictions to start immediately (SALK followed by SAEN), and
- disallow any calls on an Attendant Console (SALK on SAR group containing the attendant(s)).

Customer attendants that are included in SAR groups are placed in Position Busy when an off-hour or off-day period goes into effect. The restricted attendant can only release existing calls or dial the SAR Flexible Feature Codes. New calls cannot be made. Incoming calls will be directed to any other attendants that are not included in SAR groups and that are not in Position Busy.

If the system is placed in Night Service by an attendant, or the system is automatically placed in Night Service because all attendants are in the Position Busy state, incoming calls are routed to the Night DN. Going into Night Service will automatically place attendants who belong to a SAR group into an SAR Locked and Enabled state. These attendants can only release existing calls or dial the SAR Flexible Feature codes; they cannot make new calls when restricted by SAR.

Operating parameters

The definition of authorization codes for SAR decreases the number of authorization codes available for non-SAR use.

SAR does not apply to Direct Inward System Access (DISA) DNs. DISA can be used to manually modify the SAR schedule using an FFC authorization code.

Telephones and trunks assigned to SAR groups have their Class of Service (COS), Trunk Group Access Restriction (TGAR) and Network Class of Service (NCOS) defined by the SAR schedule of their SAR group.

During the periods that a SAR or SAR lock is in effect, the Controlled Class of Service (CCOS) for the station or trunk is overridden.

If a Facility Restriction Level (FRL) is changed in order to be associated with a different NFCR tree, the NCOS using that FRL is affected. Also, different FRLs, and therefore different New Flexible Code Restriction (NFCR) trees, are used at different times according to the NCOS assigned to the SAR group.

Feature interactions

Authorization Code

Authorization Codes can be used to override SAR restrictions. In addition, Authorization Codes are defined for the specific use of SAR FFCs.

Automatic Redial (ARDL)

The Scheduled Access Restrictions (SAR) on ARDL redialed calls are set when the call is initiated. If restrictions are changed later, the prior restrictions still apply.

Basic Alternate Route Selection

If SAR is equipped when Basic Alternate Route Selection (BARS) is set up, a NCOS value between 0 and 99 must be defined for each time period.

Call Detail Recording

If configured, Call Detail Recording (CDR) A-type records are printed for SAR Flexible Feature Codes functions.

Class of Service

Sets defined in LD 10 and 11, and trunks defined in LD 14 which are assigned a SARG number, have their Class of Service defined by the SAR schedule of their SAR group.

Controlled Class of Service (CCOS)

If SAR is active, it overrides CCOS whether activated by a controller or Electronic Lock.

Coordinated Dialing Plan

If SAR is equipped when Coordinated Dialing Plan (CDP) is set up, a NCOS value between 0 and 99 must be defined for each time period.

Direct Inward System Access (DISA)

DISA numbers are not assigned to SAR groups and therefore are not affected by SAR schedules.

DISA can be used to manually modify the SAR schedule, provided that the correct FFC and Authorization Code are dialed.

Electronic Lock Network Wide/Electronic Lock on Private Lines

The SAR feature overrides Electronic Lock.

Forced Charge Account

Forced Charged Account can be used to override SAR restrictions on a per call basis, provided the current Class of Service of the set or trunk is CUN, TLD, or CTD.

Multi-Tenant Service

If a SAR is assigned to a tenant, any set belonging to the tenant will follow this SAR schedule unless the set belongs to a SAR group. The set's Scheduled Access Restrictions override any SAR assigned to the tenant.

Network Alternate Route Selection

If SAR is equipped when Network Alternate Route Selection (NARS) is set up, a NCOS value between 0 and 99 must be defined for each time period.

Network Class of Service (NCOS)

When an NCOS is changed, it may be necessary to alter the NCOS values defined for each SAR group in LD 88. The NCOS value, which defines the facility restriction level and hence the NFCR trees, is used as defined by the SAR schedule. Also, different FRLs, and hence different NFCR trees, are used at different times according to the NCOS assigned to the SARG.

New Flexible Code Restriction

If a Facility Restriction Level (FRL) is changed to be associated with a different NFCR tree, any NCOS which uses that FRL is affected. In turn, the NCOS assigned to a SAR group may also be affected.

Office Data Administration System

Office Data Administration System (ODAS) can be used to indicate that telephones have been assigned to an SAR group. ODAS must be equipped in order to print members of a SAR group in LD 81.

Speed Call and Network Speed Call

The System Speed Call and Network Speed Call features ignore the Class of Service and TGAR access restrictions in a SAR schedule, using the Class of Service and NCOS defined in the speed call list.

Trunk Group Access Restriction (TARG)

SAR does not alter the TARGs defined per route.

Feature packaging

The Scheduled Access Restrictions (SAR) package is 162.

Feature implementation

LD 88 – Create or modify Scheduled Access Restrictions as follows:

Prompt	Response	Description
REQ	NEW, CHG	Create or change existing data block.
TYPE	SAR	Scheduled Access Restrictions.
CUST	0-99	Customer number.
SPWD	xxxx	Secure data password (same password as defined for DISA on a per customer basis in LD 15). Note: Prompt will not appear to a user with an LAO password.
SGRP	0-999	SAR group number.
SCDR	(NO), YES	(Do not) activate CDR for the SAR FFC commands.
OFFP	1-8	Off-hour period number. Off-hour periods may overlap; the period that starts first has priority until that off-hour period is over.
	<CR>	Go to ICR prompt.
- STAR hh mm	hh mm	Start time. The current start time (hours and minutes) is printed individually after the prompt. Respond with the new start time.
	X	Remove value and return to OFFP prompt.
- STOP hh mm	hh mm	Stop time. The current stop time (hours and minutes) is printed individually after the prompt. Respond with the new stop time.
	X	Remove value and return to OFFP prompt.

- DAYS	d ... d	Respond with a new set of days to be used. Maximum of seven entries in the range of 1-7. Day 1 = Sunday, Day 2 = Monday, etc.
- COS	(UNR) CTD CUN FR1 FR2 FRE SRE TLD	Off-hour period Class of Service. Unrestricted Conditionally Toll-Denied Conditionally Unrestricted Fully Restricted Class1 Fully Restricted Class 2 Fully Restricted Semi-restricted Toll Denied
- TGAR	(0)-15	Trunk Group Access Restriction.
- NCOS	0-99	Network Class of Service.
- ICR	(NO), YES	Incoming Calls are Restricted.
LOCK	(1)-8	The LOCK prompt is used to indicate which off-hour period is to be used as the LOCK period. The default is Period 1.

LD 88 – If the system is in an off-hour or locked period when a print command is issued, an asterisk appears following the restrictions being used. If lock is in effect, an additional asterisk appears following the lock prompt. The print command allows a tenant number to be entered. The status of a tenant SAR group can be printed.

Prompt	Response	Description
REQ	PRT	Print.
TYPE	SAR	Scheduled Access Restrictions.
CUST	0-99	Customer number.
SPWD	xxxx	Secure data password.
TEN	1-511	Tenant number.
SGRP	0-999	Prompted only if no tenant number is entered.

LD 88 – With SAR you must configure the Authcode data block not to automatically generate Authcodes as follows:

Prompt	Response	Description
REQ	NEW	New.
TYPE	AUB	Authcode data block.
CUST	0-99	Customer number.
SPWD	xxxx	Secure data password (same password as defined for DISA on a per customer basis in LD 15).
ALEN	1-14	Number of digits in authcodes.
ACDR	YES, NO	Activate CDR for authcodes (there is no default response).
RANR	0-511 X	RAN route number for authcode last prompt. Enter X for no entry.
CLAS	(0)-115	Classcode value assigned to authcode.
AUTO	NO	Do not automatically generate Authcodes. Note: Prompted when NAUT package 63 is equipped and REQ = NEW. The Authcode length must be a minimum of four digits.

LD 88 – Define SAR entries in the Authcode entries data block as follows:

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	AUT	Authcode entries data block.
CUST	0-99	Customer number.
SPWD	xxxx	Secure data password (same password as defined for DISA on a per customer basis in LD 15).
CODE	xxxx ...	Authcode (1-14 digits).
SARC	YES, NO	Allow or disallow Authcode to be used as the SAR authorization code.

- SERV	(END), ENA (LKD) LKA (DSD), DSA (UND) UNA	SAR service functions for SARC (the SERV prompt appears if SARC = YES) Enable (Denied) Allowed. Lock (Denied) Allowed. Disable (Denied) Allowed. Unlock (Denied) Allowed Note: Up to four entries can be made at once.
- SRGP	0-999 ALL	Number of SAR group to be defined or changed. Change all SAR groups.
CLAS	(0)-115	Class code value assigned to authcode. Cycle continues with CODE. When type = AUT, enter X to configure the authcode as an exempt code. When this data is printed, the month the authcode was deactivated is output. The default is 0 when adding authcode entries.
	X	Exempt authcode.

LD 10 – A SAR group can be assigned to individual analog (500/2500 type) sets by entering the SAR group number in response to the SGRT prompt. If the SAR group number has not been previously defined in LD 88, an error message is issued.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
...		
SGRP	(0)-999	Scheduled Access Restriction group number. Must have group defined in LD 88.

LD 11 – A SAR group can be assigned to individual Meridian 1 proprietary sets by entering the SAR group number in response to the SGRT prompt. If the SAR group number has not been previously defined in LD 88, an error message is issued.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
...		
SGRP	(0)-999	Scheduled Access Restriction group number. Must have group defined in LD 88.

LD 12 – A SAR group can be assigned to individual Attendant Consoles by entering the SAR group number in response to the SGRT prompt. If the SAR group number has not been previously defined in LD 88, an error message is issued. Attendant Consoles do not follow the SAR restrictions defined by the SARG group, but they can be locked by using SAR FFCs.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	2250	Attendant Console type.
TN	c u	Terminal Number.
...		
SGRP	(0)-999	Scheduled Access Restriction group number. Must have group defined in LD 88.

LD 16 – A SAR group can be assigned to individual trunk route by entering the SAR group number in response to the SGRT prompt. If the SAR group number has not been previously defined in LD 88, an error message is issued.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
...		
SGRP	(0)-999	Scheduled Access Restriction group number. Must have group defined in LD 88.

LD 57 – Define Flexible Feature Codes for the SAR disable, SAR enable, SAR lock, and SAR unlock functions.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	FFC	Flexibly Feature Codes data block.
CUST	0	Customer number.
...		
CODE	aaaa	Specific Flexible Feature Code Type. To change a specific Flexible Feature Code, enter the associated mnemonic then carriage return <CR>. The mnemonic will then be prompted and the Flexible Feature Code can be entered. The Flexible Feature Code may be up to four digits or up to seven digits if DNX package 150 is equipped.
- SADS	xxxx	SAR Disable code.
- SAEN	xxxx	SAR Enable code.
- SALK	xxxx	SAR Lock code.
- SAUN	xxxx	SAR Unlock code.

LD 93 – A SARG can be entered for each tenant. Sets follow the restriction of this group if they are a member of the tenant and do not belong to a SARG themselves. Respond to the TEN prompt with the tenant number. Respond to the SGRP prompt with the number of the SAR group to be assigned to the tenant.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	TGEN	Tenant SAR data block.
CUST	0	Customer number.
...		
TEN	1-511	Tenant number.
...		
SGRP	(0)-999	Scheduled Access Restriction group number. Must have group defined in LD 88.

Feature operation

Modification of SAR Restrictions

SAR restrictions can be modified on a per call basis by using an Authorization code, if the Basic Authorization Code (BAUT) package 25 is equipped.

Also, if the Authorization Code and Flexible Feature Codes packages are equipped, the off-hour periods can be shortened or extended by using the four SAR FFCs.

The Authorization Code feature can be used to allow a user to override a Scheduled Access Restriction on a single-call basis by dialing an Authorization Code (Authcode). Each Authcode is assigned a Class of Service, Trunk Group Access Restriction, and a Network Class of Service. The restrictions associated with the dialed Authcode, apply to the call being made. Thus, by using an Authcode, any facility to which access is allowed depending on the restrictions associated with an Authcode, can be accessed by dialing the set, even though the set may normally be denied access.

Single-Call Modification

The Scheduled Access Restrictions feature does not modify using Authcodes to allow calls to be made on restricted sets. Dial either “SPRE + 6” or the AUTH FFC plus the Authcode associated with the desired restrictions. Once dial tone is returned, indicating a valid code, the call may be dialed as normal.

Off-Hour Period Modification

The SADS, SAEN, SALK, and SAUN FFCs defined in LD 57 can be used to modify off-hour period restrictions, by simply dialing the FFC plus an appropriate Authcode. The Authcode determines if the requested function is allowed and whether the action is to take place on a SAR group or a customer basis. An FFC plus and Authcode for a specific SARG is only accepted from a station within that group, or from a station within a tenant which uses that SAR group.

Entering a Flexible Feature Code plus an Authcode results in the following:

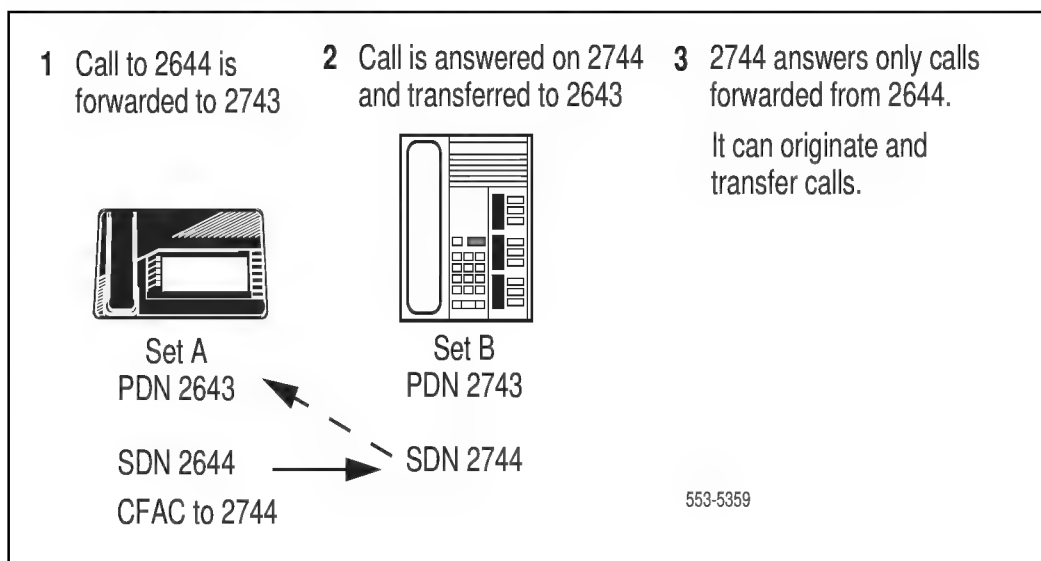
- SALK + Authcode = extend off-hour restrictions for weekends or holidays
- SAUN + Authcode = return to the schedule of access restrictions
- SADS + Authcode = extend normal restrictions into the off-hour period for after hour services
- SAEN + Authcode = cancel this after hour service
- SALK followed by SAEN + Authcode = cause off-hour restrictions to start immediately, and
- SALK on SAR group containing the attendant(s) + Authcode = disallow any calls on an Attendant Console.

Secretarial Filtering

Secretarial Filtering is an application of Call Forward All Calls. It allows you to forward all calls to a second telephone. The user at the second telephone answers the forwarded calls and can choose to transfer the call back to you.

In the following example, a manager having a secondary DN of 2644 forwards all calls arriving at that DN to a secretary's secondary DN 2744. Any call placed to DN 2644 is forwarded to the secretary at DN 2744. The secretary answers the call, decides that the manager should take the call, and transfers it back to DN 2643 (the prime DN). In this example, the manager receives only the calls originated or transferred by the secretary.

Figure 11
Secretarial Filtering example



Operating parameters

Only the Directory Number (DN) designated as the Call Forward number can originate or transfer calls to the originally dialed DN.

All Single Appearance DNs on the forwarded telephone are forwarded to the target DN.

A Multiple Appearance DN on the forwarded telephone is forwarded only if it is a Prime DN. A Multiple Appearance DN that is not the Prime DN rings at all appearances, including the forwarded telephone.

Feature interactions

Phantom Terminal Numbers (TNs)

If a Phantom TN is call forwarded to an existing telephone, and that telephone is used to call a DN on the Phantom TN, the call receives DCFW treatment.

Feature packaging

Secretarial Filtering is included in base system software. It is provided with Call Forward All Calls.

Feature implementation

This feature is enabled when Call Forward All Calls is enabled.

Feature operation

See the feature operation in the Call Forward All Calls module in this document.

Semi-Automatic Camp-On

This feature allows a Camp-On call to recall to the attendant instead of ringing the called party when the called party becomes available. The called party can originate calls but cannot receive any other calls. Other incoming calls to this DN will receive a busy indication. If the called party originates another call when the attendant attempts to present the Camp-On call, the attendant receives busy tone and can initiate Camp On again or release the call.

When an attendant extends a call to a desired party that is busy, the attendant can activate Semi-automatic Camp-On by pressing the Semi-automatic Camp-On (SACP) key. This causes the call to be camped-on to the desired party, and recalled to the attendant when the desired party becomes idle, rather than rung through to the desired party.

Recall to Same Attendant must be allowed, otherwise the recall is routed to the first available attendant. The attendant display shows the calling-party DN and the party to which the call is camped-on. If the attendant, or all attendants in a multiple-console environment, are busy then the recall is placed in the attendant queue.

Meanwhile, incoming calls to the desired party receive busy treatment. The desired party, however, is still able to make calls. After receiving the recall, the attendant can ring the desired party by pressing the SACP key. The attendant may release the call while it is ringing, or hold the call until it is answered. If the desired party has made another call while the attendant tries to present the recall, the attendant may Camp-On the recall to the desired party by pressing the SACP key.

Operating parameters

The same operating parameters apply as for Camp-On.

Semi-automatic Camp-On is mutually exclusive with the Call Waiting feature. Thus, Attendant Consoles configured with Semi-automatic Camp-On will not work if Call Waiting has been defined.

Semi-automatic Camp-On can be configured for individual or all Camp-On occurrences.

Semi-automatic Camp-On is not available with Network Attendant Service. If the attendant tries to apply Semi-automatic Camp-On to a station at a remote node, the SACP lamp flashes to indicate that Semi-automatic Camp-On is not allowed. The attendant has to press the SACP key again to deactivate the feature, and be allowed to activate it under normal operation.

Semi-automatic Camp-On is not supported during Night Service or Enhanced Night Service. Calls that were camped-on by Semi-automatic Camp-On during normal hours ring through to the desired party, when idle, and do not recall to the attendant.

Feature interactions

Attendant Break-In

The attendant can Break-In to an established call and apply Semi-automatic Camp-On to the desired party. The attendant may press the SACP key before or after the Break-in.

Incoming calls during recall

During Semi-automatic Camp-On, when the desired party becomes idle and the camp-on is recalled to the attendant, the desired party appears busy to incoming calls. The DN of the desired party is displayed as busy on the Busy Lamp/Enhanced Busy Lamp display.

Periodic Camp-On Tone

Periodic Camp-On Tone stops when the camped-on call is recalled to the attendant.

Secrecy and Enhanced Secrecy

Secrecy and Enhanced Secrecy apply to Semi-automatic Camp-On recalls, with splitting taking place when the attendant answers the recall.

Feature packaging

Semi-automatic Camp-On (SACP) is package 181.

Feature implementation

LD 15 – Configure Semi-automatic Camp-On.

Prompt	Response	Description
REQ	NEW, CHG	New, or change
TYPE	ATT	Gate opener.
...		
RTSA	RSAA	Recall to Same Attendant Allowed.
SACP	(NO) SNGL ALL	Semi-automatic Camp-On. Semi-automatic Camp-On not allowed. Enable Semi-automatic Camp-On on a per-call basis. Enable Semi-automatic Camp-On for all occurrences. SACP keys must be defined on all Attendant Consoles which are to make use of the feature.

LD 12 – Configure an SACP key on the Attendant Console.

Prompt	Response	Description
...		
KEY	xx SACP	Key number, Semi-automatic Camp-On.

Feature operation

When an attendant extends a call to a desired party who is busy, the attendant can activate Semi-automatic Camp-On as follows:

- 1 Press the SACP on the Attendant Console.
 The call is camped on the desired party.

 The display on the Attendant Console shows the calling party's DN, and the party to which the call is camped on (the desired party).
- 2 The desired party becomes idle.
 The call is recalled to the attendant.
- 3 To ring the desired party after receiving the recall, press the SACP on the Attendant Console again.

Recall timing on Camp-On calls

When any station extends an external call, recall timing will be initiated if the call is camped on to a busy station.

The recall timing will start from the moment that the extending station “releases” the call. The value of the recall timer is set by the prompt RTIM in the Customer Data Block (LD 15).

At the recall, the camped on call will be routed to the attendant. If the attendant is in Night Service, Night treatment is given; if NAS routing is active, the call will be routed according to the NAS configuration.

Standalone case

When the recall to the attendant occurs, the Camp-On is canceled. If the attendant is busy during the recall, the recall will be queued.

Network case

When the recall occurs and the attendant has answered the recall, the call will still be camped on to the desired party. If during the recall the attendant is busy, the recall will be queued.

Series Call

The Series Call feature causes a source call (either an attendant-answered incoming call, or an attendant-originated trunk call), that has been extended to an internal destination party, to be recalled to the attendant when the destination party hangs up. The attendant may then extend the source call to another destination party. This feature enables a caller to talk to more than one party without having to disconnect and call again (Recall to Same Attendant must be allowed, otherwise the recall is routed to the first available attendant). This process can be repeated for as many destinations as requested by the caller.

A Series Call is canceled if one of the following occurs:

- the attendant presses the SECL key while the associated lamp is lit
- the attendant extends the source to a trunk while the SECL lamp is lit
- the attendant enters Night Service after extending the call and prior to receiving the recall
- the destination is call forwarded to a trunk, or
- the source disconnects.

Operating parameters

The source can only be extended to an internal party.

Feature interactions

Attendant Position Busy

If the attendant activates Position Busy while a Series Call is active, the recall occurs to the next available attendant.

Timed Reminder Recall

With Timed Reminder Recall, if the attendant extends a Series Call during Camp-on, Call Waiting, or ringing, the SECL lamp goes dark.

Call Detail Recording

With Call Detail Recording, a start record is generated when a source Periodic Pulse Metering call is answered and marked as a Series Call by the attendant, and an end record is generated when the attendant releases the call. No intermediate records are generated.

Night Service

If the attendant extends a Series Call and goes into Night Service before it recalls to the attendant, the call recalls to the night DN and Series call treatment is canceled.

Feature packaging

Series Call (SECL) is package 191.

Feature implementation

LD 12 – Series Call keys must be defined for each Attendant Console to make use of the function.

Prompt	Response	Description
...		
KEY	xx SECL	Key number, Series Call.

LD 15 – Recall to the first available attendant.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	ATT	Change Attendant Console options.
CUST	0	Customer number.
...		
- RTSA	(RSAD), RSAA	Recall (Denied) Allowed to Same Attendant.

Feature operation

The attendant designates the source call as a Series Call by pressing the Series Call (SECL) key. The SECL key may be pressed by the attendant while dialing, talking to the destination party, or while a call is ringing. The associated key lamp remains lit until the Series Call is canceled. If the attendant tries to extend a call to an external station, the SECL lamp flashes. The attendant has to press the SECL key to cancel the Series Call, and extend the call as a standard call extension.

Set-Based Administration Enhancements

Set-Based Administration is a feature that simplifies system installation and administration by enabling a set to be used to perform several administrative and maintenance procedures.

Three levels of set-based data administration access are available, having the following capabilities:

- Administrator Access allows a system administrator to make changes to any supported telephones within the same customer location. The system administrator can perform any of the following tasks through an administration/maintenance set (M2008, M2016, M2216, M2616 with display):
 - Change the data associated with specific set-related features (i.e., Hunting, External Hunting, Call Forward No Answer, External Call Forward No Answer, Call Forward, Busy Forward Status, Voice Call, Dial Intercom Group, Group Call, Ringing Number Pickup Group, Speed Call, System Speed Call, and Hot Line)
 - Add or change the Calling Party Name Display (CPND) names associated with existing DNs
 - Change system date and time
 - Change toll restrictions of any set, and
 - Determine Directory Number-Terminal Number correspondence.
- Installer Access allows an installer to perform any of the following tasks to a set from which the installer is logged in:
 - Change the data associated with specific set-related features

- Add or change the Calling Party Name Display names associated with the DN on that set
 - Change system data and time, and
 - Change toll restriction for that set.
- User Installation allows a user to add or change the user's own CPND when logging in through the user's own set.

Administrator and Installer Access are invoked by dialing the Administrator or Installer Flexible Feature Code (FFC) followed by the Administrator or Installer password. The passwords are defined on a system basis. User Access is activated by dialing the Set-Based Administration User FFC followed by the Station Control Password of the user's set.

The multi-language capability of this feature supports English, German, Spanish, Swedish, Canadian and European French, Dutch, Italian, Danish, Portuguese, and Norwegian.

The functionalities offered by Set-Based Administration are grouped under the following two tasks on the main menu, under administration access:

- Administration: provides a grouping of trunk-related options.
- Installation options: provides the same functions as before; however, it is moved to a new location on the main menu.

For more information about Set-based Administration see the *Set-Based Administration User Guide*.

Short Buzz for Digital Telephones

When a call is presented to a digital telephone that is off-hook, a buzz tone is given. The duration of this secondary buzz is shortened from two seconds to an average of 0.8 seconds, with a minimum length of 0.5 seconds and a maximum length of one second.

Operating parameters

Short Buzz for digital telephones does not apply to SL-1 telephones.

Meridian 1 Option 11C Compact Buzz for digital sets does not change the buzz tone given to Automatic Call Distribution (ACD) telephones on the In-calls key.

Feature interactions

Group Call

The special three-second buzz for Group Call is not affected by this feature.

Feature packaging

Short Buzz for Digital Telephones is included in base system software.

Feature implementation

No change to existing configuration is required to implement this feature.

Feature operation

No specific operating procedures are required to use this feature.

Speed Call

Speed Call allows you to place calls by dialing a one-, two-, or three-digit code. You can use Speed Call for both internal and external calls. To use Speed Call, Meridian 1 proprietary telephones, and Attendant Consoles can have a Speed Call key/lamp pair.

Analog (500/2500 type) telephones can activate Speed Call by using Special Prefix (SPRE) or Flexible Feature Codes (FFC).

Analog (500/2500 type) telephones, Meridian 1 proprietary telephones, and Attendant Consoles can be designated as a Speed Call Controller (SCC) or a Speed Call User (SCU). SCCs can program the numbers to be stored (Speed Call codes) and can use the Speed Call list. SPU's cannot program Speed Call codes; they can only use the Speed Call lists.

Each stored number is assigned a Speed Call code from the Speed Call list. Each list can contain up to 1000 telephone numbers (entries). The maximum number of digits of the telephone number that can be stored in each entry is specified by the customer. Speed Call entries can be 4, 8, 12, 16, 20, 24, 28, or 31 digits long.

Operating parameters

You can define up to 8191 (0-8190) Speed Call lists per system, as long as sufficient memory is available. This maximum includes all combined Speed Call, System Speed Call (SSC), and Hot Line lists.

You can have as many Speed Call lists as you have available key/lamp pairs on any Meridian 1 proprietary telephone, or Attendant Console. Any number of users can be assigned to a list. Analog (500/2500 type) telephones can access only one Speed Call list. More than one Speed Call Controller can be assigned to each list, but this is not recommended.

A maximum of 31 digits for the telephone number is allowed per Speed Call list entry. An asterisk (*), which indicates a pause, and an octothorpe (#), which indicates end-of-dialing, can be programmed as part of the entry.

Speed Call list entries can be defined in LD 18 or by Speed Call Controllers. Speed Call Controllers must know the digit length (one, two, or three) required for the Speed Call codes in each list.

Feature interactions

AC15 Recall: Transfer from Meridian 1

Speed Call is supported with the AC15 Recall: Transfer from Meridian 1 on the first transfer, provided that the digits are outpulsed on the trunk after the End-to-End Signaling Delay timer expires. If the far end is not ready, the call will fail because no dial tone is detected by the Meridian 1.

Autodial Tandem Transfer

The Speed Call key cannot be used after a Centrex Switchhook Flash or during an established call to send digits out to the far site. The Speed Call key can be used only during the dialing stage.

Automatic Redial

The Automatic Redial (ARDL) feature can be activated on a call using the Speed Call (SCL) and System Speed Call (SSU/SSC) keys.

Calling Party Privacy

An outgoing trunk call initiated by dialing the Speed Call code will carry the Privacy Indicator if the CPP code followed by the normal dialing sequence is stored in the Speed Call Entry represented by the Speed Call code. The CPP code will be counted against the maximum number of digits (currently 31) allowed per Speed Call list entry.

A user can also store the CPP code in the Speed Call Entry (or Speed Call key). An outgoing CPP call can then be initiated by dialing the Speed Call code (or pressing the Speed Call key), followed by manually dialing the digits.

Direct Private Network Access

If a Speed Call entry is programmed with a valid Authcode for Authcode Last followed by an octothorpe "#", the existing Authcode Last operation will reject the Authcode as an invalid Authcode. If Authcode Last Retry is defined, the caller will be reprompted for the Authcode.

Enhanced Flexible Feature Codes - Outgoing Call Barring

Digits dialed using Speed Call are checked against the active Outgoing Call Barring (OCB) level. This includes calls made using the Dial Access to Speed Call feature (i.e., using Pilot DN's).

Last Number Redial

A number dialed using Speed Call will become the Last Number Redial number on all telephones, except the M2317 and M3000.

Pretranslation

A Speed Call List number should be programmed to allow for Pretranslation. For example, if 9 pretranslates to 99 and you want to reach 99 nxx xxxx, you need to program the number in the Speed Call List as 9 nxx xxxx. When the Speed Call List is used, 9 nxx xxxx is pretranslated at call processing time to become 99 nxx xxxx.

Speed Call Delimiter

An octothorpe (#) is required as a delimiter following an authorization code if an Electronic Switched Network (ESN) and dialed number are stored as part of the speed call key. If an octothorpe (#) is not entered then the user receives a fast busy tone. If the MSCD = YES, then the end of dial delimiter must be programmed to something other than an octothorpe (#) in LD 15.

Feature packaging

Speed Call is part of Optional Features (OPTF) package 1, and has no feature package dependencies.

Feature Implementation

LD 17 – Set maximum number of Speed Call lists.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN PARM	Configuration Record. Gate opener.
...		
- MSCL	0-8191	Maximum number of Speed Call lists.

LD 18 – Compute Speed Call list memory size and disk records. Use this prompt sequence to determine if there is enough memory and disk records for new Speed Call lists. Compare the output with the MEM AVAIL and DISK AVAIL values output before the REQ prompt.

Prompt	Response	Description
REQ	COMP	Compute disk and memory.
TYPE	SCL	Speed Call lists.
NOLS	1-8191	Number of lists to be added.
DNSZ	4-(16)-31	Maximum length of DN allowed for Speed Call list.
SIZE	1-1000	Maximum number of entries in Speed Call list.

LD 18 – Add or change a Speed Call list.

Prompt	Response	Description
REQ	NEW, CHG, OUT	Add, change, or remove a Speed Call list.
TYPE	SCL	Speed Call data block.
LNSO	0-8190	Speed Call list number.
DNSZ	4-(16)-31	Maximum number of digits in a list entry (i.e., 4, 8, 12, 16, 20, 24, 28, or 31).
SIZE	1-1000	Maximum number of entries in the Speed Call list.
WRT	(YES), NO	Data is correct and list may be updated.
STOR	xxx yy...yy	xxx = list entry number (0-9, 00-99, or 000-999). yy = digits to be stored against the entry (must be equal to or less than DNSZ).
WRT	(YES), NO	Data is correct and list can be updated.

Note: The prompt WRT follows prompts SIZE and STOR, asking you to confirm the correctness of the data just entered. If data is correct, enter YES or <CR>. A response of NO after the SIZE prompt causes all data entered to be ignored. A response of NO after the STOR prompt generates a warning message (SCH3213) indicating the data was not stored and must be reentered.

A response of **** aborts the program. Only the last STOR value is lost. All previous values to which WRT was YES are saved.

The following information is output with the WRT prompt, following SIZE:

ADDS: MEM: xxxxx DISK: yy.y

where xxxxx is the amount of protected memory and yy.y is the number of disk records required for the new Speed Call list. Check the MEM AVAIL and DISK REC AVAIL values output before the REQ prompt.

LD 10 – Add or change Speed Call for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	I s c u	Terminal Number.
FTR	SCU yyyy	Speed Call User, list number (0-8190).
	SCC yyyy	Speed Call Controller, list number (0-8190).

LD 11 – Assign a Speed Call list to Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx SCU yyyy	System Speed Call User key.
	xx SCC yyyy	Speed Call Controller key, where: xx = key number, and yyyy = Speed Call list number (0-8190). M3000 must use key 21. M2317 must use key 0-10 or key 21.

LD 12 – Assign a Speed Call list to an Attendant Console.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
KEY	xx SCC yyyy	Speed Call Controller, where: xx = key number, and yyyy = list number (0-8190).

Feature operation

To store Speed Call entries from a Meridian 1 proprietary telephone, or Attendant Console (Controller):

- 1 Without lifting the handset, press **Speed Call**. The indicator flashes.
- 2 Dial the Speed Call code (0-999), followed by the phone number it represents.
- 3 Press **Speed Call**. If the entry is accepted, the indicator goes off. If the entry is not accepted, the indicator continues flashing.

To make a Speed Call from a Meridian 1 proprietary telephone, or Attendant Console (User):

- 1 Lift the handset and press **Speed Call** (telephone).
 - Select an idle loop key and press **Speed Call** (Attendant Console).
- 2 Dial the Speed Call code. The telephone number represented by the Speed Call code is dialed automatically.

To store Speed Call entries from an analog (500/2500 type) telephone (Controller):

- 1 Lift the handset and press octothorpe (#) +2 (2500 telephone) or SPRE+75 (analog [500/2500 type] telephone).
- 2 Dial the Speed Call code (0-999), followed by the phone number it represents. If the entry is accepted, you hear silence. If the entry is not accepted, you hear a fast busy tone.
- 3 Hang up.

Repeat steps 1 through 3 for each entry to be stored.

To make a Speed Call from an analog (500/2500 type) telephone (User):

- 1** Lift the handset and dial #3 (2500 telephone), or SPRE 76 (Analog [500/2500 type] telephone).
- 2** Dial the Speed Call code (0-999). The telephone number represented by the Speed Call code is dialed automatically.

Note: In addition to SPRE codes your system may be equipped with Flexible Feature Codes (FFCs).

Speed Call/Autodial with Authorization Codes

This feature is an enhancement to the existing Speed Call and Autodial features. It allows a Speed Call entry to contain an Authorization Code with an associated trunk route or Electronic Switched Network (ESN) access code and dialed number. The digits stored are recorded in Call Detail Recording (CDR), if equipped, for billing purposes.

The Speed Call entry can be one of the following:

- SPRE + 6 + Authorization Code
- SPRE + 6 + Authorization Code + #, or
- SPRE + 6 + Authorization Code + # + ESN access code and dialed number.

Operating parameters

Authorization Code Conditionally Last is not supported.

An octothorpe (#) is required as a delimiter after the Authorization Code if an ESN access code and dialed number are stored as part of the Speed Call or Autodial key. If the octothorpe is not entered, the user receives a fast busy tone. The octothorpe is not stored in the CDR record.

If the system initializes before the Authorization Code is recorded by CDR, the record may be lost.

An SL-1 digital display set can display up to 16 digits. Additional digits cause the digits to scroll off the display.

The M3000 set can display up to 29 digits. Additional digits cause the digits to scroll off the display. Only one softkey, key 21, can be programmed for Speed Call.

An M2317 set can display up to 31 digits.

For Meridian 1 proprietary sets, up to 31 digits per Speed Call entry are allowed.

On digit display sets, Authorization Codes cannot be blocked from being displayed.

There is no validation of the Authorization Code until the Speed Call key is activated.

Feature interactions

There are no interactions with other features.

Feature packaging

The following packages are required to implement this feature:

- Basic Authorization Code (BAUT) package 25, or Network Authorization Code (NAUT) package 63.
- Optional features (OPTF) package 1, System Speed Call (SSC) package 34, or Network Speed Call (NSC) package 39.

Feature implementation

An Authorization Code can now be entered as part of a Speed Call list.

Feature operation

No specific operating procedures are required to use this feature.

Speed Call on Private Lines

This feature allows Meridian 1 proprietary telephone users equipped with a Private Line (PVR or PVN) key and a Speed Call (SCL) key to first access a Private Line trunk (by pressing the PVR or PVN key) and then make a speed call (by pressing the SCL key).

Operating parameters

When a Private Line call is made, recognizable Route Access Codes are absorbed from the start of every entry in the Speed Call List (e.g., if 7654 is stored as a Speed Call List entry, and 76 is a valid Route Access Code, 76 is absorbed and 54 is outputted).

Feature interactions

Feature interactions are the same as for the Private Line and Speed Call features.

Automatic Redial (ARDL)

The ARDL feature is activated on a number dialed using the Private Line (PVR/PVN) key and then making a speed call by pressing the Speed Call (SCL) key.

Basic/Network Alternate Route Selection (BARS/NARS)

The BARS and NARS access codes (AC1 and AC2) are not absorbed. If a user has a Speed Call list entry that includes either AC1 or AC2, this entry will not terminate correctly when used on a Private Line. The BARS or NARS access code (AC1 or AC2) will be outputted, causing the Public Network to either terminate the call at an unwanted location or reject the call.

Feature packaging

Speed Call on Private Lines is part of base system software and requires Optional Features (OPTF) package 1.

Feature implementation

No change to existing configuration is required to implement this feature.

Feature operation

	ACTION	RESPONSE
1	User presses Private Line Ringing (PVR) or Private Line Nonringing (PVN) key.	Trunk is accessed and dial tone is returned.
2	User presses Speed Call key and enters list entry number.	The number stored against this entry is outpulsed.

Speed Call, System

System Speed Call extends the capabilities of Speed Call. In addition to abbreviated dialing, System Speed Call allows a user to temporarily override the telephone's Class of Service, Trunk Group Access Restrictions (TGARs), and code restrictions.

Analog (500/2500 type) telephones, Meridian 1 proprietary telephones, and Attendant Consoles can activate System Speed Call by using SPRE or Flexible Feature Codes (FFC).

An analog (500/2500 type) telephone can be designated as a System Speed Call User only (not Controller) and can access one System Speed Call list. Meridian 1 proprietary telephones can be System Speed Call Users (SPRE codes or key access) or Controllers (key access only). Attendant Consoles can be System Speed Call Users (dial access only) and System Speed Call Controllers (key access only).

Operating parameters

System Speed Call lists can have up to 1000 entries and each entry can be up to 31 digits in length.

Restrictions applied to a telephone are ignored only for the origination of a call made through System Speed Call. Restrictions are applied if any call modification is attempted once the call is established.

System Speed Call lists can only be programmed in LD 18 or from telephones or Attendant Consoles equipped with a System Speed Call Controller key.

In LD 18, the technician can add or copy up to 100 System and regular Speed Call Lists at a time.

Feature interactions

Attendant Administration

System Speed Call lists can be assigned using Attendant Administration.

Authorization Code

If the Basic Authorization Code (BAUT) or Network Authorization Code (NAUT) package is equipped, a Network Class of Service (NCOS) is assigned to the System Speed Call list. The NCOS of the System Speed Call list replaces the NCOS of the Authorization code or Forced Charge Account code if it increases the Facility Restriction Level (FRL) of the code.

Basic/Network Alternate Route Selection (BARS/NARS)

If the BARS or NARS package is equipped, an NCOS is assigned to the System Speed Call list. The NCOS associated with the System Speed Call list replaces the NCOS of the telephone if it increases the Facility Restriction Level (FRL) of the user.

Calling Party Privacy

An outgoing trunk call initiated by dialing the Speed Call code will carry the Privacy Indicator if the CPP code followed by the normal dialing sequence is stored in the Speed Call Entry represented by the Speed Call code. The CPP code will be counted against the maximum number of digits (currently 31) allowed per Speed Call list entry.

A user can also store the CPP code in the Speed Call Entry (or Speed Call key). An outgoing CPP call can then be initiated by dialing the Speed Call code (or pressing the Speed Call key), followed by manually dialing the digits.

Flexible Feature Code (FFC)

With FFC, a confirmation tone is provided for Speed Call store after the end-of-dial (EOD) string is entered.

Last Number Redial

A number dialed using a System Speed Call key becomes the Last Number Redial number on all telephones, except the M2317 and M3000. A number dialed using SPRE-activated System Speed Call becomes the Last Number Redial number on all telephones. The original Class of Service and NCOS restrictions of the telephone apply when using Last Number Redial.

Pretranslation

A Speed Call List number should be programmed to allow for Pretranslation. For example, if 9 pretranslates to 99 and you want to reach 99 nxx xxxx, you need to program the number in the Speed Call List as 9 nxx xxxx. When the Speed Call List is used, 9 nxx xxxx is pretranslated at call processing time to become 99 nxx xxxx.

Feature packaging

System Speed Call (SSC) is package 34 and has no feature package dependencies.

Feature Implementation

LD 17 – Set maximum number of Speed Call lists.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN PARM	Configuration Record. Gate opener.
...		
- MSCL	0-8190	Maximum number of Speed Call lists.

LD 18 – Compute Speed Call list memory size and disk records. Use this prompt sequence to determine if there is enough memory and disk space for new Speed Call lists. Compare the output with the “MEM AVAIL” and “DISK AVAIL” values output before the REQ prompt.

Prompt	Response	Description
REQ	COMP	Compute disk and memory.
TYPE	SCL	Speed Call lists.
NOLS	1-8190	Number of lists to be added.
DNSZ	4-31	Maximum length of DN allowed for Speed Call list.
SIZE	1-1000	Maximum number of entries in Speed Call list.

LD 18 – Add or change a System Speed Call list.

REQ	NEW, CHG, OUT NEW xx, CPY xx	Add, change, or remove a single speed call list; Add or copy xx lists.
TYPE	SSC SCL	System Speed Call. Speed Call List.
LSNO	0-8190 xxxx, yyyy	Number of list to add, where: xxxx = number of list to be copied, and yyyy = number of list to receive copy.
NCOS	0-99	NCOS to be assigned to calls accessing the list.
DNSZ	4-(16)-31	Maximum number of digits in a list entry (i.e., 4, 8, 12, 16, 20, 24, 28, or 31).
SIZE	1-1000	Maximum number of entries in the Speed Call list.
WRT	(YES), NO	Data is correct and list may be updated.
STOR	xxx yy...yy	xxx = list entry number (0-9, 0-99, or 0-999). yy = digits to be stored against the entry (must be equal to or less than DNSZ).
WRT	(YES), NO	Data is correct and list may be updated.

Note: The prompt WRT follows prompts SIZE and STOR asking you to confirm the correctness of the data just entered. If data is correct, enter YES or <CR>. A response of NO after the SIZE prompt causes all data entered to be ignored. A response of NO after the STOR prompt generates a warning message (SCH3213) indicating the data was not stored and must be reentered.

A response of "*****" aborts the program. Only the last STOR value is lost. All previous values to which WRT was YES are saved.

The following information is output with the WRT prompt, following SIZE:

ADDS: MEM: xxxxx DISK: yy.y

Where xxxxx is the amount of protected memory and yy.y is the number of disk records required for the new Speed Call list. Check the "MEM AVAIL" and "DISK REC AVAIL" values output before the REQ prompt.

LD 10 – Add or change System Speed Call for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
FTR	SSU yyyy	System Speed Call user, list number (0-4095).

LD 11 – Add or change System Speed Call list for Meridian 1 proprietary telephones.

REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
SSU	yyyy	System Speed Call list number (0-4095) for dial access.
KEY	xx SSU yyyy xx SSC yyyy	System Speed Call user key. System Speed Call Controller key, where: xx = key number, and yyyy = System Speed Call list number (0-4095). Note: The M2317 and M3000 must use key 21.

LD 12 – Add or change a System Speed Call list for Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
SSU	yyyy	System Speed Call list number (0-4095) for dial access.
KEY	xx SSC yyyy	System Speed Call Controller key, where: xx = key number, and yyyy = System Speed Call list number (0-4095).

LD 20 – Print Speed Call data.

Respond to the TYPE prompt with SCL to print regular and System Speed Call lists and pretranslation.

Respond to the TYPE prompt with SSC to print the System Speed Call data block.

Feature operation

To store System Speed Call entries from a Meridian 1 proprietary telephone, or Attendant Console (Controller):

- 1** Without lifting the handset, press **Speed Call**. The indicator flashes.
- 2** Dial the Speed Call code (0-999), followed by the telephone number it represents.
- 3** Press **Speed Call**. If the entry is accepted, the indicator goes off. If the entry is not accepted, the indicator remains flashing.

To make a System Speed Call from a Meridian 1 proprietary telephone, or Attendant Console (User):

- 1 Lift the handset and dial SPRE 73 or press the System Speed Call key (telephone).

— or —

Select an idle loop key and dial SPRE 73 (Attendant Console).

- 2 Dial the Speed Call code.

If the Speed Call number is accepted, the telephone number represented by the Speed Call code is dialed automatically. No confirmation tone is given unless Flexible Feature Code (FFC) is implemented.

If the Speed Call number is not accepted, a fast busy signal indicates the number was rejected.

To make a System Speed Call from an analog (500/2500 type) telephone (User):

- 1 Lift the handset and dial SPRE 73.
- 2 Dial the Speed Call code (0-999). The telephone number represented by the Speed Call code is dialed automatically.

Note: In addition to SPRE codes your system can be equipped with Flexible Feature Codes.

The routine to add a call list aborts under the following conditions:

- trying to add a call list whose number is already in use, or
- trying to add multiple call lists when there is insufficient memory.

Station Category Indication

The Station Category Indication (SCI) feature allows an attendant to selectively answer internal attendant Directory Number (DN) calls on a priority basis. Stations are assigned a category, with priority indicated by an Incoming Call Indicator (ICI) lamp at each Attendant Console. Using the answering priority defined in LD 15, the attendant gives prompt attention to a call presented at a high-priority ICI lamp by selecting the associated ICI key.

Operating parameters

A maximum of seven station categories (1-7) can be assigned.

Calls from SCI 0 stations appear on the dial 0 ICI.

Calls from fully restricted stations appear on the dial 0 fully restricted ICI.

The Station Category Indication (SCI) feature should not be mixed with any other Incoming Call Indicator (ICI) assignment on the same ICI key/lamp pair.

Feature interactions

Centralized Attendant Service (CAS)

When CAS is active, calls from a remote station to the attendant DN appear on the remote ICI key/lamp pair at the CAS main, regardless of the station SCI category.

Controlled Class of Service (CCOS)

The CCOS feature has priority over SCI. A station's SCI category is suppressed when CCOS is active, and calls to the attendant DN carry the CCOS class defined in the database.

Phantom Terminal Numbers (TNs)

SCI cannot be enabled on a Phantom TN.

Feature packaging

Station Category Indication (SCI) package 80 has no feature package dependencies.

Feature implementation

LD 15 – Add or change a Station Category Indication ICI key/lamp pair for Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB	Customer Data Block.
CUST	0-99	Customer number.
ICI	0-19 CA1-CA7	Assign ICI key/lamp pair for SCI.
ICI	0-19 DL0	Dial 0 (calls from telephones in SCI 0).
ICI	0-19 DFO	Fully restricted (call from fully restricted telephones).

LD 10 – Change SCI for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	l s c u	Terminal Number.
SCI	0-7	SCI number.

LD 11 – Change SCI for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
SCI	0-7	SCI number.

Feature operation

No specific operating procedures are required to use this feature.

Station Specific Authorization Code

Station Specific Authorization Code (SSAU) enables the system administrator to control the level of authorization code access on a per telephone basis. SSAU applies to analog (500/2500 type) and Meridian 1 proprietary telephones; it does not apply to Basic Rate Interface (BRI) telephones.

Station Specific Authorization Code provides three levels of authorization code access:

- 1 Authcode Unrestricted (AUTU)**
An AUTU telephone has no authorization code access limitations. Any authorization code is accepted and processed normally.
- 2 Authcode Restricted (AUTR)**
An AUTR telephone can enter up to six assigned authorization codes. The authorization code entered must match one of the preassigned codes. Any other authorization code will be rejected and the call will not be completed.
- 3 Authcode Denied (AUTD)**
An AUTD telephone has no access to authorization codes. Any authorization code will be rejected and the call will not be completed.

Operating parameters

The same authorization code can be assigned to more than one AUTR telephone.

There is cross-checking between LDs 10 and 11, which define a station specific authorization code, and LD 88, which ensures that the user has entered a valid authorization code.

LD 88, which is used to delete an existing authorization code, does not check if the authorization code is assigned as a station specific authorization code before the deletion.

The Station Specific Authorization Code feature does not apply when the authorization code is prompted from a tandem node.

Feature interactions

Attendant Administration

Station Specific Authorization Code does not support Attendant Administration.

Authorization Code

Users cannot freely enter authorization codes from telephones that have AUTR or AUTD Class of Service.

Autodial

The SSAU feature treats stored autodial numbers as if they were entered at the telephone.

Speed Call

The SSAU feature treats stored speed call numbers as if they were entered at the telephone.

Feature packaging

Station Specific Authorization Code (SSAU) is package 229, which requires Basic Authorization Codes (BAUT) package 25.

Feature implementation

LD 88 – Create Authorization Code data block (AUB).

Prompt	Response	Description
REQ	NEW	Create.
TYPE	AUB	Authcode data block.
CUST	0	Customer number.
SPWD	xxxx	Secure data password.
ALEN	1-14	Number of digits in authcodes.
ACDR	YES, NO	Activate CDR for authcodes. There is no default.
RANR	0-511	RAN route number for “Authcode Last” prompt (NAUT).
CLAS	(0)-115	Class code value assigned to authcode (NAUT).
COS	aaa	Class of Service.
TGAR	(0)-31	Trunk Group Access Restrictions.
NCOS	(0)-99	Network Class of Service.
AUTO	YES, NO	Automatically generate authcodes.
- SECR	0-9999	Security password (NAUT).
- NMBR	1-9999	Number of authcodes to be generated.
- CLAS	(0)-115	Class code value assigned to authcode (NAUT).

LD 88 – Create an Authorization Code Table.

Prompt	Response	Description
REQ	NEW	Create.
TYPE	AUT	Authorization Code Table.
CUST	0	Customer numbers.
SPWD	xxxx	Secure data password.
CODE	xxxx	Authcode (number of digits must equal ALEN).
CLAS	(0)-115	Class code value assigned to authcode (NAUT).

LDs 10/11 – Activate SSAU.

Prompt	Response	Description
REQ	NEW, CHG	Add, or modify.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
CLS	(AUTU), AUTR, AUTD	Authcode unrestricted. Authcode restricted. Authcode denied.
MAUT	(NO), YES	Modify assigned authcodes for this telephone.
SPWD	xxxx	Correct security password (if one is defined).
AUTH	x nnnn	x is in the range of 1-6; nnnn is the assigned authcode (a valid authorization code defined in LD 88).
	X x	X x deletes an assigned authcode.
Note: Changing an AUTR telephone to AUTU or AUTD clears all assigned authcode information previously defined for that telephone.		

LD 20 - Security Password.

Prompt	Response	Description
REQ	PRT	Print.
TYPE	xxx	Type of data block.
TN	c u	Terminal Number
CDEN	SD, DD, 4D, 8D	Card density requested.
CUST	xx	Customer Number.
SPWD	xxxx	Valid Security data password to display SSAU.
Note: Once SPWD is prompted, a valid security data password as defined in the customer data block is required for displaying Authorization (AUTH) information for sets with Class of Service Authorization Code. Sets with Class of Service Authcode Unrestricted (AUTU) and Authcode Denied (AUTD) do not have AUTH information for display. Entering of a carriage return at the SPWD prompt will result in the AUTH information being skipped during printing.		

In LD 20, Security Password (SPWD) will not be prompted if any of the following conditions exists:

- the Station Specific Authcode Package 220 is not equipped,
- the response to the TN prompt is more than one specific TN,
- the response to the TN prompt is a unique TN, but the customer of this TN does not have a security data password defined,
- the response to the CUST prompt is not a specific customer, or
- the response to the CUST prompt is a specific customer number but the customer does not have a security password defined.

Feature operation

After an authorization code is entered, the Station Specific Authorization Code feature determines if the set is allowed to use the entered code. If the authorization code is not allowed on that set, the existing invalid authorization code treatment occurs. Otherwise, normal authorization code processing occurs.

Station-to-Station Calling

Station-to-Station Calling allows direct dialing between station users in the same customer group without the assistance of the attendant.

Operating parameters

There are no feature requirements.

Feature interactions

Manual Line Service

If a single line telephone has been assigned a Manual Line Class of Service, the telephone automatically rings the attendant when it goes off-hook.

Private Lines

You must go over the public network to reach a Private Line. The software PRDN is not meant to be dialed directly.

Feature packaging

Station-to-Station Calling is included in base system software.

Feature implementation

No change to existing configuration is required to implement this feature.

Feature operation

No specific operating procedures are required to use this feature.

Stored Number Redial

Stored Number Redial (SNR) allows telephones and Attendant Consoles to store one previously dialed number of 4 to 31 digits for automatic redialing.

Depending on the type of telephone, the number can be stored before a call is placed, during Ringback, while the number is busy, or during an active call. On Attendant Consoles, the number can be stored only before a call is placed. Stored Number Redial (SNR) is not supported on M2317 telephones, M3000 Touchphones, or analog (500/2500 type) telephones serving as Private Lines.

Operating parameters

When a number is stored, it overwrites any previously stored number.

Storage is limited to one number per analog (500/2500 type) telephone and one number per SNR key. When a call is established through a Tandem TIE Trunk Network (TTTN), the user is required to pause for dial tone. When you store a number using SNR, automatic redialing may fail because required delays are not added. It is possible to include delays in the outpulsing by dialing the asterisk (*) in the original digit string where dial tone is expected. Each asterisk (*) signifies a three-second delay in outpulsing.

The three-second delay is not available from a 500-type telephone.

During the stored Number Redial (SNR) programming mode, if the user attempts to store more digits than the maximum number defined for the telephone or console, SNR programming is canceled and overflow tone is returned. During an active call on a Meridian 1 proprietary telephone, if a user attempts to store more digits than the specified limit, the SNR operation fails, the previously stored number remains unchanged, and a failure indication is not given. The SNR indicator remains off.

For analog (500/2500 type) telephones, in order to store a number dialed to a busy DN, the maximum length of the stored number must be at least five digits (see prompt FTR RDL xx in LD 10).

Feature interactions

Authorization Code Charge Account Forced Charge Account

The Authorization, Charge Account, and Forced Charge Account codes are not stored. To store a code, dial the code prior to using Stored Number Redial to dial the call.

Automatic Redial (ARDL)

The ARDL feature can be activated on a call using the Stored Number Redial (RDL) key.

Calling Party Privacy

During Stored Number Redial (SNR) programming, a user can store the CPP code followed by the normal dialing sequence in the SNR data space. Outgoing calls originated by the SNR feature will send the Privacy Indicator to the far end. The CPP code will be counted against the maximum number of digits (currently 31) allowed by the SNR feature.

During an active call on a Meridian 1 proprietary telephone, the Stored Number Redial feature will store the CPP code in the SNR data space if the CPP code was included in the number dialed by the originator. The outgoing redialed calls will send the Privacy Indicator to the far end.

End-to-End Signaling (EES)

EES activates after a call to a trunk is established by expiration of the end-of-dial timer. Further digits dialed are not stored by the SNR feature once it is in EES mode.

Multi-Party Operations

For analog (500/2500 type) telephones, the Last Number Redial/Stored Number Redial feature can be used when normal or special dial tone is received. The last number redialed that can be stored is the first call of a consultation connection, and can be stored only after the connection is completely released.

Feature packaging

Stored Number Redial (SNR) is package 64 has no feature package dependencies.

Feature implementation

LD 10 – Add or change SNR for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(XFD), XFA	Call Transfer (denied) allowed.
FTR	RDL xx	Activate SNR, where: xx = the maximum number of digits that can be stored (i.e., 4, 8, 12, (16), 20, 24, 28, 31).

LD 11 – Add or change SNR for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx RDL yy	Add an SNR key, where xx = key number, and yy = the maximum number of digits that can be stored (i.e., 4, 8, 12, (16), 20, 24, 28, 31).

LD 12 – Add or change SNR for Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
KEY	xx RDL	Add an SNR key.

Feature operation

Attendant Consoles, Meridian 1 proprietary telephones

To store a number prior to dialing (for Attendant Consoles, and Meridian 1 proprietary telephones):

- 1 Without lifting the handset, press **Stored No.**
- 2 Dial the number.
- 3 Press **Stored No.** again. The number is stored, replacing any previous one.

To store a number during Ringback, while the number is busy, or during an active call (for Meridian 1 proprietary telephones only):

— Press **Stored No.**

To call a stored number:

- 1 Press **DN** (Meridian 1 proprietary telephones) or the Loop key (consoles).
- 2 Press **Stored No.** The number is dialed.

Analog (500/2500 type) telephones

To store a number prior to dialing:

- 1** Lift the handset.
- 2** Dial SPRE 78, or the Flexible Feature Code (FFC) assigned for SNR.
- 3** Dial the number to be stored.
- 4** Hang up. The number is stored, replacing any previous one.

To store a number before a call is placed, during Ringback, while the number is busy, or during an active call:

- 1** Flash the switchhook or press **LINK**.
- 2** Dial SPRE 78, or the FFC assigned for SNR.

To call a stored number:

- 1** Lift the handset.
- 2** Dial SPRE 79, or the FFC assigned for SNR. The number is dialed.

Supervised Analog Lines

The Supervised Analog Lines feature provides two types of call supervision signaling capabilities: battery reversal answer/disconnect supervision; and hook flash disconnect supervision. These forms of supervision are provided to terminal devices connected to analog ports in the Meridian 1 system.

Battery Reversal Supervision

Battery reversal answer and disconnect supervision signaling is used for calls originating from the terminal device. It provides both far-end (i.e., the called party) answer supervision and far-end disconnect supervision signals to the terminal device. It does not apply to incoming calls terminating at the terminal device.

In the idle state, the analog port in the Meridian 1 provides ground signal on the tip lead and battery on the ring lead. This polarity is maintained during dialing and ringing at the far end. When the far end answers, the battery and ground connections are reversed. The reverse battery is maintained while the call is established. When the far end disconnects, the battery and ground connections are reverted to the idle state to signal that the far end has disconnected. If the terminal device disconnects first, the Meridian 1 sends the Deactivate Battery Reversal Scan Signal Distribution (SSD) message to the firmware after receiving the on-hook status to revert the polarity to its idle state.

Two types of battery reversal are supported. Battery Reversal for Absolute Answer Only provides an answer supervision signal to the terminal device only when the Meridian 1 detects an absolute answer. Battery Reversal for Absolute and Assumed Answer provides an answer supervision signal to the terminal device even when an assumed answer is detected and the far end is not capable of indicating definite answer (e.g., an outgoing call on an unsupervised loop start trunk).

Hook Flash Disconnect Supervision

Hook flash disconnect supervision is used for incoming calls terminating at the terminal device. The disconnect signal is indicated by the removal of the ground connection to the tip lead for a specific period of time, which is provided by firmware ranging from a minimum of 10 milliseconds to a maximum of 2.55 seconds. The analog port is held busy for incoming calls while hook flash is in progress.

Operating parameters

This feature applies to Intelligent Peripheral Equipment that support the Supervised Analog Line feature only.

Disconnect supervision is not provided to the terminal device if the Meridian 1 Option 11C Compact does not receive any indication of the far end releasing.

If the Meridian 1 does not receive any answer indication, and answer supervision is not extended to the terminal device following an assumed answer condition, disconnect supervision cannot be extended when the far end disconnects.

If the Battery Reversal Supervision feature is configured for an analog line on an analog card that does not support battery reversal, the battery reversal SSD messages from the Meridian 1 software are ignored by the analog card firmware. In this case, no battery reversal signal is extended to the terminal device.

If the Hook Flash Disconnect Supervision feature is configured for an analog line on an analog card that does not support hook flash, the hook flash SSD messages from the Meridian 1 software are ignored by the analog line card firmware. In this case, no hook flash signal is extended to the terminal device.

If the system initializes while an outgoing call originating from an analog line is established and battery reversal is activated, unprotected data is lost. In this case, battery reversal remains activated when the call is cleared down by either party. However, the line status is reverted to normal when the next outgoing call is answered and then cleared down.

If the hook flash timer is set equal to or greater than the on-hook timer, activation of the hook flash disconnect signal also causes the card to send an on-hook message and then an off-hook message to the Meridian 1. In this case, if the user remains off-hook after the far end disconnects, dial tone is received and an outgoing call can be initiated.

Feature interactions

Call Transfer

If more than one active call is extended to an analog line, the call type associated with an analog line is determined by the first active call. The call type is assumed to be incoming and hook flash supervision applies if a terminal device answers an incoming call from an idle state. If the terminal device performs a switch hook flash to put the first party on hold and initiates a consultation call, the Battery Reversal feature is not supported; no battery reversal answer signal is extended to the terminal device when the second party answers.

If the first party disconnects while the terminal device is connected to the second party, no disconnect supervision is extended to the terminal device. However, hook flash disconnect supervision is extended to the terminal device when the second party disconnects (i.e., a disconnect supervision signal is sent only when the last party connected to the terminal disconnects).

If a terminal device originates an outgoing call, battery reversal answer supervision is extended when the called party answers. The polarity of the line remains reversed when the terminal device performs a switch hook flash and then initiates a consultation call to a second party. The analog line is reverted to normal polarity when the terminal device completes the transfer and drops out or when the last of either the held party or the consultation party disconnects.

Conference

If a terminal device answers an incoming call and then initiates a conference, no battery reversal answer supervision signal is extended to the terminal device when new parties of the conference answer. However, a hook flash disconnect supervision signal is extended to the terminal device when the last party in the conference disconnects.

If a terminal device initiates a conference, battery reversal answer supervision is extended to the terminal device when the first party answers. No polarity change is made when additional parties are added to the conference. The polarity is reverted to normal when the terminal device disconnects or when the last party in the conference disconnects.

Multi-Party Operations

As in the cases with Call Transfer and Conference, the call type of the first active call determines whether battery reversal or hook flash supervision applies. Also, supervision signaling is not supported for the second call. A disconnect supervision signal is extended only when the last party disconnects.

Feature packaging

The Supervised Analog Lines feature is included in base system software.

Feature implementation

LD 10 – Enable battery reversal supervision.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
...		
FTR	OSP (1)	Outgoing call supervision. Answer and disconnect supervision for outgoing calls with absolute and assumed answer indication. If the numeric parameter is not entered and the saved value is null, it is defaulted to 1. Otherwise it remains unchanged.
	OSP 2	Answer and disconnect supervision for outgoing calls with absolute answer supervision only.
	XOSP	Enter XOSP to disable battery reversal answer and disconnect supervision.

LD 10 – Enable hook flash disconnect supervision.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
...		
FTR	ISP 1...(75)...255	Enable hook flash disconnect supervision with flash timer in 10 millisecond units. If the numeric parameter is not entered and the saved value is null, it is defaulted to 75. Otherwise it remains unchanged.
	XISP	Enter XISP to disable hook flash disconnect supervision.

Respond to the FTR prompt in LD 10 with OSP 1, and then with ISP 1...(75)...255 to enable both battery reversal supervision and hook flash disconnect supervision.

Feature operation

No specific operating procedures are required to use this feature.

Telephones

There are different types of telephones you can use in the Meridian 1 Option 11C Compact system. Regular telephones are compatible with the Meridian 1 Option 11C Compact system, as well as some special business telephones designed specifically to take advantage of the many features available.

This module provides an overview of the telephones and a description of the basic features and services. Additional information regarding related software features is found in other modules of this document.

“Meridian 1 proprietary telephones” is used as a generic term and includes the SL1, M2000 series telephones, the M2317 telephone, the M3000 Touchphone and Meridian 1 Modular Telephones, which are all configured using LD 11. Meridian 1 Option 11C Compact supports Meridian 1 Modular and Analog (500/2500 type) telephones.

Analog (500/2500 type) telephones

Analog (500/2500 type) telephones are regular telephones not normally associated with a business environment, but they are compatible with the Meridian 1 Option 11C Compact system. They are configured by using LD 10. The 500-type telephones have a rotary dial. The 2500-type telephones are the basic push-button models, such as the Link and Unity, which do not have feature buttons normally found on business telephones.

Although analog (500/2500 type) telephones do not have feature keys, you can access various system features using Special Prefix (SPRE) codes. SPRE codes are also useful for Meridian 1 proprietary telephones to access features without using feature keys. Dial the SPRE code (unique to each customer within the system) and then the feature code that applies to the operation you desire.

Table 21 lists the feature codes available using SPRE.

Table 21
Feature codes used with SPRE (Part 1 of 2)

Dial SPRE +	Operation performed
1	Ring Again
2	Cancel Ring Again
3	Ringing Number, Call Pickup
4	TAFAS (Trunk Answer From Any Station)
5	Charge Account for CDR
6	Authorization Code Access
70 + ACOD + mmm (Trunk Route Access Code and Member)	Trunk Verification From Station
71 + DN	Call Park, To Park
72 + DN	Call Park, To Retrieve
73	System Speed Call, To Use
74	Call Forward activate or cancel (500-type telephones)
75 + Entry Access Code + DN (500-type telephones)	Speed Call, Individual To Program Entry
76 + Entry Access Code (500-type telephones)	Speed Call, Individual To Use Entry
77	Permanent Hold (500-type telephones)
78	Stored Number Redial, To Store
79	Stored Number Redial, To Redial
81	Automatic Set Relocation
83	Malicious Call Trace
84	Integrated Messaging System
86 + x (status)	Room Status
86 + 1	Cleaning Request
86 + 2	Cleaning In Progress
86 + 3	Room Cleaned

Table 21
Feature codes used with SPRE (Part 2 of 2)

Dial SPRE +	Operation performed
86 + 4	Passed Inspection
86 + 5	Failed Inspection
86 + 6	Cleaning Skipped
86 + 7	Not For Sale
87	Disconnect Trunk, Conference 6 (analog (500/2500 type) telephones)
89	Last Number Redial
91	Access to maintenance programs by Maintenance Telephone
92	Terminal Diagnostics, telephones and Attendant Consoles
93	Conference Circuit Testing
94	Ringing Number, Group Pickup
95	Ringing Number, DN Pickup
96	Centrex Switchhook Flash
97	Unassigned Automatic Call Distribution (ACD) analog (500/2500 type) telephone Log in/out
98	Unassigned ACD analog (500/2500 type) telephone Activate/deactivate Not Ready

Table 22
2500-type telephone features (no SPRE code used)

# + 1 + DN	Call Forward
# + 2 + Speed Call code + DN	Speed Call, Individual, To Program Entry
# + 2 + Speed Call code + *	Speed Call, Individual, To Erase Entry
# + 3 + Speed Call code	Speed Call, Individual, To Use Entry
# + 4	Permanent Hold

Meridian 1 Modular Telephones

Meridian 1 Modular Telephones are designed to provide cost-effective integrated voice and data communication capability. These telephones communicate with the Meridian 1 Option 11C Compact, using digital transmission over standard twisted-pair wiring. [Table 23](#) summarizes the different models of Meridian 1 Modular Telephones.

When a modular telephone is equipped with either a display or data option, a PROGRAM key (key 5 for M2006, key 7 for all remaining modular telephones) is automatically assigned to the upper right-hand feature key. This feature provides user control over such display features as screen format, contrast and language. It also provides user control over such parameters as transmission speed, parity and terminal mode.

Table 23
Meridian 1 Modular Telephones

Set type	Programmable keys	Additional comments
M2006	6	Single-line only
M2008	8	Multi-line
M2616	16	Programmable Handsfree
M2016S	16	Telephone Security Group Class II approved
M2216ACD-1	16	ACD Display module and two RJ-32 headset jacks
M2216ACD-2	16	ACD Display module; one RJ-32 and one PJ-327 headset jack

The Meridian 1 Modular Telephones are designed to accommodate various add-on modules to increase their functionality. [Table 24](#) lists the modules you can add on to a Meridian 1 Modular Telephone.

Table 24
Add-on modules for Meridian 1 Modular Telephones

	M2006	M2008	M2016S	M2616	M2216ACD-1	M2216ACD-2
Display		x	x	x	Standard	Standard
Key Expansion Module			x	x	x	x
Programmable Data Adapter	x	x	x	x	x	x
External alerter interface	x	x		x	x	x
Note: In this table, x indicates available add-ons for the telephone listed along the top row.						

M2006

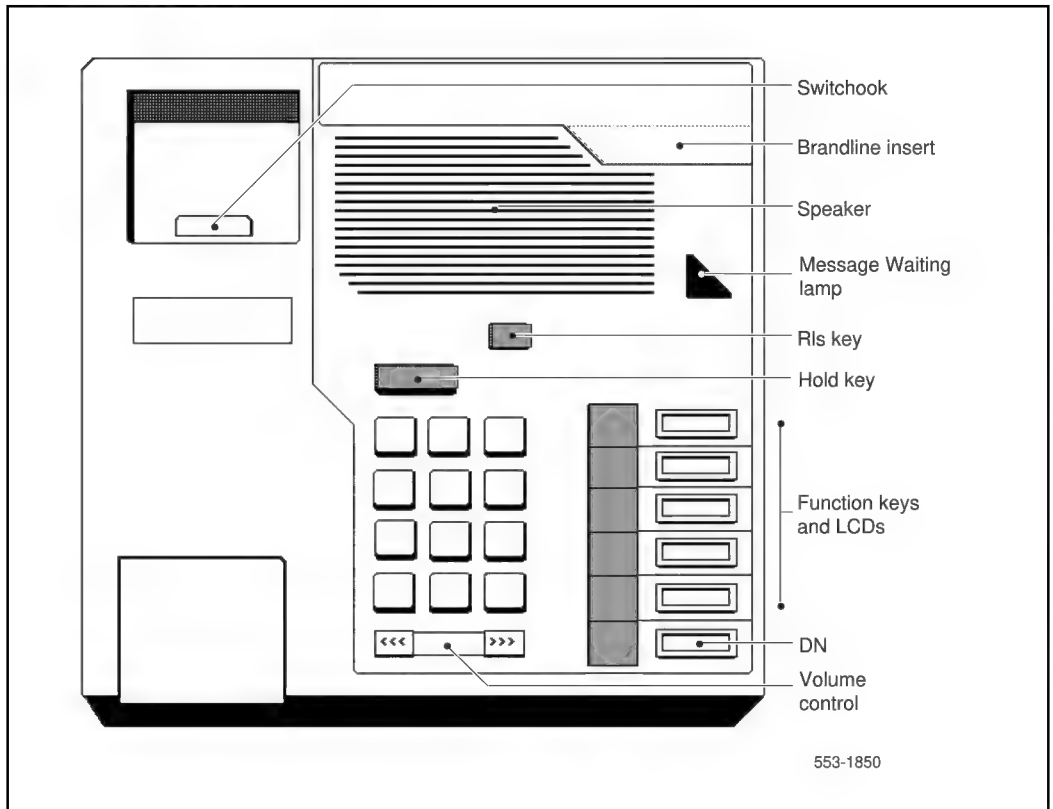
The M2006 is a digital single-line telephone that provides on-hook dialing, volume control, Release and Hold keys and a Message Waiting indicator. In addition, it provides four or five programmable feature keys (five if the data option is not in use). It also has a one-way speaker and a programmable data option.

The M2006 can have an optional external alerter interface, which connects to any standard remote alerting device.

The M2006 works off any digital line card.

[Figure 12](#) shows the M2006 telephone.

Figure 12
M2006 telephone



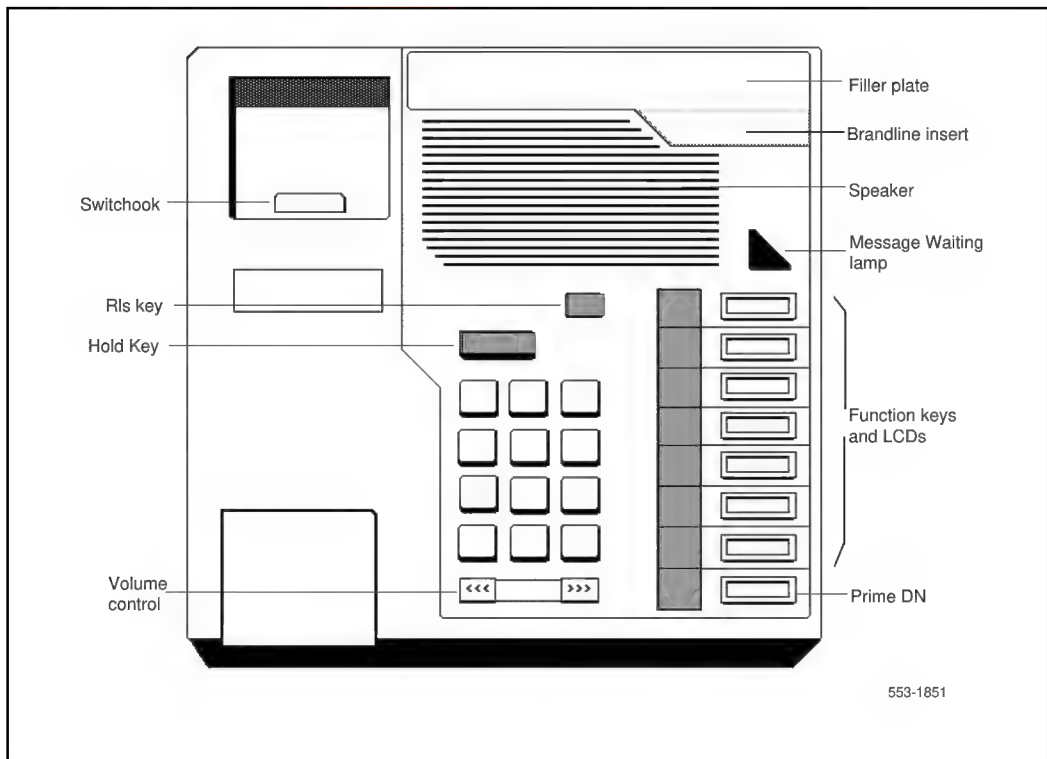
M2008

The M2008 digital telephone has eight programmable feature/line keys, on-hook dialing, volume control, Release and Hold keys and a Message Waiting indicator.

The M2008 also supports the programmable data adapter, alphanumeric display and external alerter interface options.

[Figure 13](#) shows the M2008 telephone.

Figure 13
M2008 telephone



M2616, M2216 (Models 1 and 2)

The M2616 telephone has 16 programmable feature/line keys, on-hook dialing, volume control, Release and Hold keys, Message Waiting indicator and Handsfree/mute features. It supports up to two add-on modules (each of 22 keys), an alphanumeric display option (two lines of 24 characters each), programmable data adapter and an external alerter interface.

The M2216 Model 1 and the M2216 Model 2 are almost identical to the M2616 with the following exceptions:

- They have no switchhook because they are designed for plug-in handset or headset operation.
- Display is standard rather than optional.

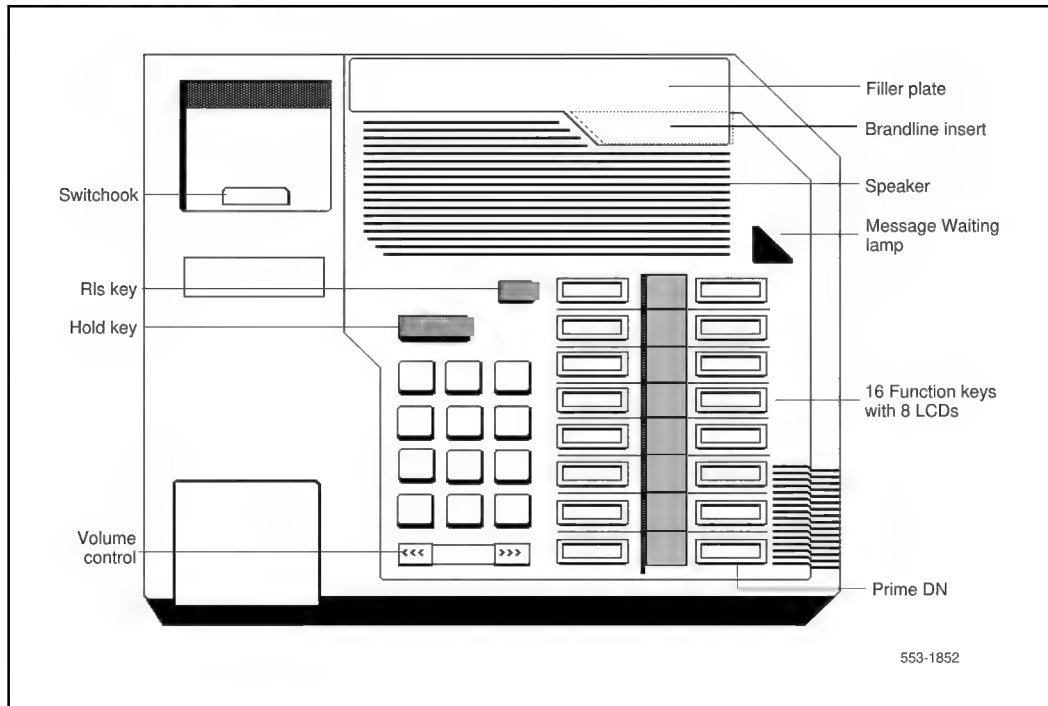
Model 1 and Model 2 refer to the types of headsets with which the M2216 operates.

Enhancements to M2216 Voice Parameters

The receive voice parameters on the M2216 can be increased up to 6 decibels. To program this capability, the ACD Set Objective Loudness Rating (AOLR) must be configured in LD 17. See “LD 17 - Meridian 1 Modular Telephones related prompts and responses”.

[Figure 14](#) shows the M2616 telephone.

Figure 14
M2616 telephone



Related documentation

Refer to the following publications for additional information on telephones and add-on modules.

- *Meridian 1 telephones description and specifications* (553-3001-108);
- *Digital telephone line engineering* (553-2201-180);
- *Telephone and Attendant Console Installation* (553-3001-215); and
- *input/output guide*.

Operating parameters

Refer to the preceding Northern Telecom publications.

Feature interactions

Refer to the preceding Northern Telecom publications.

Feature packaging

Analog (500/2500 type) telephone capabilities are included in base system software.

Digital Sets (DSET) package 88 has no feature package dependencies (Meridian 1 M2000 series telephones).

M2317 telephone (DLT2) package 91 requires Digital Sets (DSET) package 88.

M3000 Touchphone (TSET) package 89 requires Digital Sets (DSET) package 88.

Meridian 1 Modular Telephones (ARIE) package 170 requires Digital Sets (DSET) package 88, and M3000 Touchphone (TSET) package 89.

Feature Implementation

LD 15 – Add, or change an existing Special Prefix Code (SPRE).

Prompt	Response	Description
REQ:	CHG	Change.
TYPE:	FTR	Features and options.
CUST	0	Customer number.
SPRE	xxxx	Special Prefix number. The prefix must not conflict with the numbering plan.

LD 10 – Add or change analog (500/2500 type) telephone.

Prompt	Response	Description
REQ:	NEW, CHG	Add, or change.
TYPE:	500	Telephone type.
TN	c u	Terminal Number.
CDEN	SD, (DD), 4D	Card density (single, double, quad). This prompt appears only if no units on the card have been defined.
DES	a...x	Set designator (1-6 characters, alphanumeric).
CUST	0	Customer number.
DN	xxx...x	Directory number.
TGAR	0-xx	Trunk Group Access Restriction.
CLS	aaa	Class of Service mnemonics for feature assignment.

LD 11 – Add or change Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ:	NEW, CHG	Add, or change.
TYPE:	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CDEN	SD, DD, 4D	Card density (single, double, quad). Not prompted for octal density. This prompt appears only if no units on the card have been defined. Card density must be 4D if TYPE is not SL-1.
DES	a...x	Designator (1-6 characters, alphanumeric).
CUST	0	Customer number.
AOM	(0)-2	Number of key expansion modules. Prompted if TYPE = 2016, 2216, or 2616.
KLS	1-7	Number of key/lamp strips (SL-1 telephones only).
TGAR	0-xx	Trunk Group Access Restriction.
CLS	aaa	Class of Service mnemonics for feature availability.
KEY	xx aaa yyy...y	DN and feature key assignment (key number, feature mnemonic, directory number if applicable).
Note 1: A Message Waiting Allowed (MWA) Class of Service must be defined to enable the message waiting lamp. Note 2: Key 7 (key 5 for M2006) is reserved for the PROGRAM key (M2008, M2016S, M2216ACD, M2616) only if display or data is equipped.		

LD 17 – Meridian 1 Modular Telephones related prompts and responses.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	ATRN	Gate opener.
ATRN	(NO), YES	Change transmission parameters for Meridian 1 Modular or Aries telephones.
- CODE	(0)-2	CODEC coding law.
- SOLR	(0)-4	Sidetone Objective Loudness Rating.
- ROLR	(0)-12, 32-50	Receive Objective Loudness Rating.
- TOLR	(0)-63	Transmit Objective Loudness Rating.
Note: Default settings are recommended. See <i>Summary of transmission parameters</i> (553-2201-182) before changing these parameters.		

LD 17 – Meridian 1 Modular Telephone related prompts and responses.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	ATRN	Release 19 gate opener.
ATRN	(NO), YES	Change transmission parameters.
- CODE	(0)-2	CODEC Coding Law.
- SOLR	0-(1)-4	Sidetone Objective Loudness Rating.
- ROLR	(0)-63	Receive Objective Loudness Rating.
- AOLR	(0)-12 32-50	2216 ACD Set Objective Loudness Rating.
- TOLR	(0)-63	Transmit Objective Loudness Rating.
- AGCD	(NO), YES	Automatic Gain Control disabled.
Note: Default settings are recommended. See <i>Summary of transmission parameters (553-2201-182)</i> before changing these parameters.		

LD 17 – Meridian 1 Modular Telephone related prompts and responses.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	ATRN	Release 19 gate opener.
ATRN	(NO), YES	Change transmission parameters.
- CODE	(0)-2	CODEC coding law.
- SOLR	0-(1)-4	Sidetone Objective Loudness Rating.
- ROLR	(0)-63	Receive Objective Loudness Rating.
- AOLR	(0)-12 32-50	2216 ACD Set Receive Objective Loudness Rating.
- TOLR	(0)-63	Transmit Objective Loudness Rating.
- AGCD	(NO), YES	Automatic Gain Control disabled.
Note: Default settings are recommended. See <i>Summary of transmission parameters</i> (553-2201-182) before changing these parameters.		

LD 11 – Add data TN to Meridian 1 Modular telephones.

Prompt	Response	Description
REQ:	NEW	New.
TYPE:	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
DES	a...x	Set designator (1-6 characters alphanumeric).
CLS	aaa	Class of Service mnemonics for feature availability.
DTYP	IOS	Inbound/outbound data station.

ADCP KEY	(NO), YES xx aaa yyy...y	All digital connection prefix. DN and feature key assignment (key number, feature mnemonic, directory number if applicable). Note: Recommended key assignments for data TN are: Key 0 = DN (for data) Key 1 = DN (secondary) Key 2 = TRN (Transfer) Key 3 = ADL xxxx (Auto Dial Directory Number) Key 4 = RGA (Ring Again) Key 5 = SSC, Sc u, SSC, SSU (Speed Call, System Speed Call, controller or use – not available on M2006), and Key 6 = DSP (Display key for M2008, M2016S, M2216ACD, M2616).
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LD 11 – Add data TN to SL-1 telephones with data module.

Prompt	Response	Description
REQ:	NEW	New.
TYPE:	SL1	SL-1 telephone.
TN	c u	Terminal Number.
CUST	0	Customer number.
CLS	WTD	Warning Tone Denied.
KEY	xx aaa yyy...y	DN and feature key assignment (key number, feature mnemonic, directory number if applicable). Note: Recommended key assignments for data TN are: Key 0 = DN (for data) Key 1 = DN (secondary) Key 2 = TRN (Transfer) Key 3 = ADL xxxx (Auto Dial Directory Number) Key 4 = RGA (Ring Again) Key 6 = SSC, SSU (Speed Call controller or user), and Key 9 = Rls (Release).

Feature operation

Refer to the appropriate Telephone User Guide for more information on how to operate your telephone sets.

Time and Date

The Time and Date feature provides the capability to display or modify the system time and date from the Attendant Console. If Display Time or Display Date keys are installed on the console, pressing the respective key causes the time or date to be shown on the digit display. However, these keys only allow information to be displayed, not changed.

The Change Time or Change Date keys allow the attendant to change the time or date. When a change is made, the system clock is altered to the new values. The change keys also allow display of the time or date.

Operating parameters

The Time and Date feature is available with QCW, M1250, and M2250 consoles.

If the Change Time (MTM) and Change Date (MDT) keys are provided on a console, there is no need to for the Display Time (DTM) and Display Date (DDT) keys because the MTM and MDT keys provide the display capability. DTM and DDT keys are used when the console is only allowed to view, but not change, the time and date.

When using the MTM and MDT keys, the date must be entered in the day, month, and year format; and the time must be entered in the 24-hour clock format. This is true even if the M1250 or M2250 has selected a different date and time format.

The M1250 and M2250 consoles continuously show the time and date on line one of the display. The attendant can change the format of time and date by using the Options menu.

The M1250 attendant can also change the date and time by using the Options menu. However, this only changes the time and date on the console and does not change the system clock. The MTM and MDT keys are required to change the system clock.

The date and time are downloaded to the M2250 console from the system clock and cannot be changed by the Options menu. The change time and date keys are required.

A call cannot be answered while the display/change key is activated; however, the keys can be used once the call is established.

Feature interactions

Hold

Loops used when updating time or date cannot be put on hold.

Feature packaging

Time and Date (TAD) package 8 has no feature package dependencies.

Feature implementation

LD12 – Assign Time and Date keys on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
KEY	xx DDT xx DTM xx MDT xx MTM	Add a Display Date key. Add a Display Time key. Add a Display/Change Date key. Add a Display/Change Time key. Note: The range of key numbers (xx) is 0-19 on the M2250 console, and 0-9 on all other consoles.

Feature operation

To view the Time, press **Display Time (DTM)**.

To view the Date, press **Display Date (DDT)**.

To change the time, follow these steps:

- 1** Select an idle loop key.
- 2** Press **Change Time (MTM)**.
- 3** Enter the time using the 24-hour clock for hours and minutes (00 00).
- 4** Press **Change Time (MTM)**.
- 5** Press **Rls**.

To change the date, follow these steps:

- 1** Select an idle loop key.
- 2** Press **Change Date (MDT)**.
- 3** Enter the date using two digits for day, month, and year (dd mm yy).
- 4** Press **Change Date**.
- 5** Press **Rls**.

Tones and Cadences

A tone is the frequency and level of the sound produced while the telephone is ringing, providing dial tone, or providing feature activation tones. A cadence defines the time duration for the on and off phases of a ringing or tone cycle.

A set of basic tones and cadences is available on all systems. Flexible Tones and Cadences (FTC) package 125 allows the tones to be changed.

Basic Tones and Cadences

Special dial tone

Special dial tone is supplied by the system to indicate a request for Call Transfer, Conference, and Ring Again. Special dial tone differs from regular dial tone in that it has three 128 ms interruptions at the beginning of the tone.

Overflow tone

Overflow tone can be provided on an optional basis to a station user who tries to access a trunk group when all trunks are busy, or who attempts to access features that are unavailable to their telephone. Overflow tone is best described as a fast busy signal.

Tone buzzing

Tone buzzing is used in conjunction with such features as Call Waiting and Manual Signaling (Buzz) to alert the user by a buzz tone through the telephone's loudspeaker. This applies when the telephone is off-hook or has a headset plugged in.

Flexible Tones and Cadences

The Flexible Tones and Cadences (FTC) feature allows the system to adapt to tone specifications of different countries. Tones such as dial, special dial, busy, ringback, overflow, test, normal, and distinctive ringing are hardware controlled from the Tone and Digit Switch (TDS) circuit card (see [Table 25](#)). Tones such as camp-on, call waiting, intrusion, and override are software controlled, although the basic tone is still coming from the TDS card (see [Table 26](#)).

The **desired** cadences for the software controlled tones are defined by providing the system with the time length of the on and off phases. Software also controls ringing for analog (500/2500 type) telephones, although the voltage is supplied by the ring generator card.

The tone data is stored in tables. Every customer and route must select which tone table to use. Table 0 is filled in with default hexadecimal codes when the first customer is created and must not be changed.

All data related to the flexible tones is kept in isolated areas called Flexible Tone tables. Software Cadence tones and Master Cadence tables have an index into the MCAD table for its corresponding software cadence.

Most of the cadences are expressed in multiples of five milliseconds (ms). Therefore, in addition to the existing 128 ms timing mark, a 96 ms timing mark is introduced by a new read only memory (ROM) pack with new firmware.

Operating parameters

The tones that can be produced are limited to the tones available on the particular TDS card being used.

Gradual level change is not allowed when a tone is activated.

If the Distinctive Ringing package is equipped, and a trunk route is classmarked for that feature, the cadence chosen for each call comes from the same tone table as for a normal call. The Distinctive Ringing field determines the cadences.

If a parked call was originally distinctive, and FTC is equipped, the Call Park Recall cadence takes precedence. If FTC is not equipped, the distinctive precedence ringing is given.

Because Enhanced Flexible Tones and Cadences (EFTC) is an enhancement to Flexible Tones and Cadences (FTC), the FTC package must be equipped.

A customer option determines whether the cadence will be defined by the originating or the terminating end of the call.

Feature interactions

Audible Reminder of Held Call

This feature allows for a definable cadence as a reminder of a held call. With an analog (500/2500 type) telephone, the cadence is determined by the customer's Flexible Tones and Cadence (FTC) table for the holding party. Ringing on an analog (500/2500 type) telephone is not affected by definitions for the Incoming Route option. The cadence for the reminder, and the duration between reminder rings, is always defined within the customer's tone table.

Call Forward Reminder Tone

The Call Forward Reminder Tone feature provides a way to determine whether the call forwarding feature on an analog (500/2500 type) telephone is active. For systems equipped with the FTC package, the Call Forward Reminder Tone Allowed option gives the dial tone defined by CFDT to a 500 or 2500 telephone that has CFW active with no message waiting and the dial tone defined by CFMW to a 500 or 2500 telephone that has CFW active and a message waiting. To get different Call Forward and Call Forward Message Waiting reminder dial tones, it is necessary to define a distinct tone and cadence for CFDT and a distinct tone and cadence for CFMW in LD 56, as well as to specify Call Forward Reminder Tone Allowed in LD 15.

Call Park Recall and Group Call Ring

Recall Ring and Group Call Ring are given special entries in the FTC table. New entries are added to the FTC overlay (LD 56) to define the cadence for Meridian 1 proprietary, and analog (500/2500 type) telephones. The new Recall Ring entry is used to ring a telephone when recalling a Parked Call.

Conference Warning Tone Enhancement

There are no changes to the limitations to cadence numbers entry values. The same restriction still applies.

Ringling Based on Incoming Route

Enhanced Flexible Tones and Cadences (EFTC) allows the route's tone table to determine the cadence and ringing frequency for incoming calls.

10-Phase Cadence

Programming of software controlled cadences expands with EFTC from 4 intervals to 10, offering greater versatility with the cadences and cadence phases. This affects all cadences under software control.

Feature packaging

Flexible Tones and Cadences (FTC) package 125 has no feature package dependencies.

Feature implementation

Refer to *Flexible Tone and Digit Switch cards description* (553-2711-180).

Table 25
Hardware controlled tones (Part 1 of 2)

Tone	Description
Dial tone	Indicates the system can accept dialing.
Message Waiting dial tone	Indicates a message is waiting at the message center.
Call Forward dial tone	Indicates that the user has call forwarded the phone.
Call Forward Message Waiting dial tone	Indicates that the user has call forwarded the phone and a message is waiting at the message center.
Control Dial tone	Used for broker service to indicate a control digit is required after the switchhook (only for 2500-type telephones with Digitone class of service).
Busy tone	Indicates that the called DN is busy.
Ringback tone	Given to the calling party while the called party is ringing. Also given to Central Office trunks waiting for the DN to answer.

Table 25
Hardware controlled tones (Part 2 of 2)

Tone	Description
ACD RGA Ringback tone	Given to a caller to an Automatic Call Distribution (ACD) group when entering the waiting call queue and having RGA (Ring Again).
Overflow tone	Indicates that the trunk route is busy, or the DN is blocked or disabled, or that a not-allowed action has been carried out.
LDN tone	Indicates to a Centralized Attendant Service (CAS) attendant that the incoming call is a Listed DN (LDN) call from a remote site.
Camp-On tone	Provided as an initial burst when the attendant extends a call to a busy DN that is not equipped with the Call Waiting feature.
Camp-On Confirm tone	Confirms to a CAS attendant that a call to a busy DN at remote site has camped on, or that the called DN has not answered after a specified time and the calling party has come back.
Dial "0" Recall tone	Indicates to a CAS attendant that a call is a recall occurring due to attendant recall or call forward busy to an attendant from a remote site.
Hold Confirm tone	Indicates to a CAS attendant that a call placed on silent hold has timed out and is recalling.
Test tone	Provided during testing of trunk circuits.
Distinctive Ring tone	Used to differentiate between routes.
Normal Ring tone	Provided for internal calls and incoming calls if distinctive ringing or precedence ringing is not in use.

Table 26
Software controlled tones

Tone	Description
Agent Observe tone	Given to an agent being observed by a supervisor.
Call Waiting tone	Indicates to a busy station that another call is coming in.
Intrusion tone	Provided when the attendant initiates the Barge-In, Busy Verify, or Break-In feature.
Override tone	Provided when a user operates the Override key and enters the conversation of a busy extension.
Observe Blocking tone	Given to the supervisor who encounters blocking while attempting to observe an agent.
Off-Hook Queuing tone	Given to the call originator when the call enters the off-hook queue.
Set Relocate tone	Given after all information needed to relocate the phone is given and proven to be correct. Also given to indicate all is correct after plugging the phone back in at the relocated Terminal Number (TN).
Telset Messaging Alert tone	Indicates to caller that Telset messaging facilities have been entered.
Telset Messaging OK tone	Indicates to caller that the message has been received correctly and everything is fine.
Tel Status Update tone	Indicates a successful status update process.
Special Dial tone	Indicates the availability of a special function such as Conference, Transfer, etc.
Expensive Route Warning tone	When Automatic Route Selection is in use, indicates that all inexpensive routes are busy and an expensive route must be chosen to complete the call.
ACD Call Force tone	Indicates to the ACD agent that the current call has been disconnected and a new caller is about to be given to the agent.

Feature operation

No specific operating procedures are required to use this feature.

Tones, Flexible Incoming

When a telephone is off-hook, the user is alerted to a second incoming call by a buzz tone. Flexible Incoming Tones (FIT) allows the replacement of the standard buzz tone with a buzz with an on/off cadence. This feature is defined on an individual telephone basis.

When a call is presented to a telephone in any of the following situations, a tone with a special cadence alerts the user:

- Call on DN key while busy on another DN
- Call to a station that is off-hook
- Call Park recall when station is busy on another DN
- Call on Group Call key while busy on another call
- Call Waiting, and
- Call on Dial Intercom key while busy on another call.

The buzz cadence is the same as the ringing cadence that applies to a particular kind of call. For example, if a user receives a call that is a Group Call, FIT alerts users with a buzz cadence unique to group calls. If the user receives a call on the Call Waiting key, FIT provides a buzz cadence signifying call waiting.

Operating parameters

Flexible Incoming Tones applies only to Meridian 1 proprietary telephones.

Flexible Incoming Tones does not apply to the following:

- Automatic Call Distribution (ACD) call forcing
- ACD agent receiving a call on ASP key
- ACD supervisor receiving a call on AMG key
- Manual signaling
- Signal Source activated by an Attendant Console, and
- Ring Again.

Digital telephones in Handsfree mode receive the regular buzz, even if FIT is enabled.

The telephone buzzes with a cadence only if the customer and telephone options are activated. If either option is off, the telephone receives the standard buzz.

Feature interactions

Automatic Call Distribution (ACD)

If an ACD agent telephone has FIT allowed and either is off-hook in the handset mode or has the headset plugged in, the agent receives a buzz cadence when a new call is presented. If FIT is not allowed, the agent telephone receives the standard buzz tone.

Dial Intercom Groups

For Dial Intercom Group (DIG) calls with the voice (V) option, if the telephone receiving the call is busy, the user hears one buzz followed by a flashing indicator. This is how DIG works with or without FIT.

Feature packaging

Flexible Incoming Tones is included in base system software.

Feature implementation

LD 15 – Allow or deny Flexible Incoming Tones (FIT) at the customer level.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(SBD), SBA (DBD), DBA	FIT (denied) allowed for SL-1 sets. FIT (denied) allowed for Meridian 1 digital telephones.

LD 11 – Allow or deny Flexible Incoming Tones for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(FITD), FITA	Flexible Incoming Tone (denied) allowed.

Feature operation

No specific operating procedures are required to use this feature.

Trunk Barring

The Trunk Barring feature provides the option of denying or allowing a direct or modified connection between customer defined routes.

Trunk Barring works in conjunction with Route Access Restriction Tables (ARTs) defined in LD 56. Trunk Barring is applied on a route basis. The four route categories that Trunk Barring recognizes, and the types of routes in each category, appear in the following table:

Route Category	Route Types
Central Trunk Office (COT)	COT, FEX, WAT
Direct Inward Dialing	DID
TIE	TIE, CAA, CAM, CSA
Other trunk types	ADM, DIC, MDM, PAG, RCD

Trunk Barring applies to all methods of connecting the trunks (e.g., dialing route access, call modification, or attendant extension). A route is allocated an Access Restriction Table (ART) linked by a table number (ART number) in the Route Data Block. The ART to be used for a connection is determined by the first trunk in the connection independent of whether the trunks are incoming or outgoing. The first trunk in the connection is referred to as the Originating Trunk Connection (OTC).

A default table exists so that LD 56 does not have to be used to assign an ART number to a newly created route. If the default value for each Route Category is ART number 0, no trunk barring will occur.

Operating parameters

When activated in conjunction with the Route Access Restriction Tables, Trunk Barring may prohibit previously allowed connections. Previously restricted connections cannot be lifted or circumvented by Trunk Barring.

Trunk Barring does not apply to Recorded Announcement (RAN), Music (MUS), Automatic Wake-Up (AWU), or Centralized Attendant Service (CAS) trunks as it is inconsistent with their defined purposes.

Feature interactions

Access Restrictions

Trunk Barring is at the top of the hierarchy for access restrictions.

Attendant-Extended Calls

When an attendant attempts to extend an Originating Trunk Connection on a barred route, overflow tone is given.

Call Forwarding

If an Originating Trunk Connection is forwarded to a barred route, the caller receives the intercept treatment specified in the Customer Data Block.

Call Transfer

The originator of a call transfer, unless otherwise restricted, is able to connect to a denied party on a consultation basis. Operating the Transfer key on a Meridian 1 proprietary set or going on-hook on an analog (500/2500 type) set does not result in a call transfer if the Originating Trunk Connection is barred. The user of a Meridian 1 proprietary set remains connected to the denied party until releasing the connection and returning to the held Originating Trunk Connection. The user of an analog (500/2500 type) set is re-rung by the Originating Trunk Connection when transfer is attempted and denied.

Conference Calls

The originator of a conference call can only connect to a barred route on a consultation basis. A switchhook flash from an analog (500/2500 type) set results in a re-established connection with the Originating Trunk Connection. The user of a Meridian 1 proprietary set must release the barred connection to return to the Originating Trunk connection, or the conference containing the Originating Trunk connection; operating the Conference key on a Meridian 1 proprietary set has no effect. An attendant may return to the Originating Trunk Connection, or the conference containing the Originating Trunk Connection, by releasing the barred connection. This is done by pressing the RLS DEST key; pressing the Conference key has no effect.

Direct Trunk Access

When an Originating Trunk Connection attempts a trunk connection to a route which is restricted by its Access Restriction Table, the connection is not allowed. The intercept treatment specified in the Customer Data Block is applied.

Network Alternate Route Selection (NARS)/Basic Alternate Route Selection (BARS)

If one route is barred, the system will look for the next route in the Route List Index (RLI) and if this route is not barred, the call will go through on this route. If the second route is barred, the system will continue searching the next route in the Route List Index, until an unbarred route is found.

When implementing Trunk Barring caution must be exercised not to circumvent the intended NARS/BARS restrictions.

Toll Operator Break-In

Trunk Barring results in intercept treatment for all route types that can be barred, except Toll Operator Break-In.

Trunk to Trunk Connection

Trunk Barring takes precedence over the Trunk to Trunk Connection feature.

Feature packaging

Trunk Barring (TBAR) is package 132.

Feature Implementation

In most cases that require barring, only one ART is necessary, although multiple ARTs may be defined per route. Whenever a new route is created (in LD 16), the default ART defined for that route type is assigned to the route. This default depends on the route type being created.

The flexibility of assigning ART by route is also available. The default table which specifies which ART table is to be assigned to a route type is changeable in LD 56. Until this is done, the default ART is used.

The following is a guideline on how to set up Trunk Barring

- 1** Gather all information regarding the type of route to be used in the Meridian 1 system.
- 2** For each route type, list beside it the route types that are barred from connecting to it.
- 3** For each route type, assign a code number from 1 to 63. Look for the route types that are barred from accessing the same types and assign the same code number to them. If a route type is not barred from accessing any other route type, it is assigned code number 0.
- 4** When each route type is assigned a code number, go back to step 2 and replace the route types that the route is barred from accessing with their code number.
- 5** Using LD 56, create all necessary Access Restriction Tables (ARTs). Using the code number of the originating route type as the ART number, deny the necessary route type using the code numbers assigned in the previous step.
- 6** Assign each ART to a route in one of two methods:
 - a** Use LD 56 to create the Route Category Default Table (RCDT). As each route is created using LD 16, it is assigned the default ART according to route type.
 - b** Use LD 56 to assign to existing routes the desired ART.

The following is an example of how to set up trunk barring using the procedures listed above. This example is not reflective of the typical situation, but is only used to show the steps involved.

List all route types.

- COT
- TIE
- DID
- PAG
- DIC
- RAN – ignore because it cannot be barred.
- MDM

List route types to which the originator is barred access.

- COT is not barred from accessing any type.
- TIE is barred from accessing COT, PAG, DIC, and DID.
- DID is barred from accessing TIE, DIC, and MDM.
- PAG cannot be originator, but can be barred by other route types.
- DIC cannot be originator, but can be barred by other route types.
- MDM is barred from accessing COT, DID, PAG, and DIC.

Assign each originating route type a code number from 0 to 63.

- COT is assigned 0 (it is not barred access to any route type).
- TIE is assigned 1.
- DID is assigned 2.
- PAG is assigned 0 (this cannot be an originating route, but it can be barred by other route types).
- DIC is assigned 0 (this cannot be an originating route, but it can be barred by other route types).
- MDM is assigned 3.

Replace the route types the originator is barred from accessing with their code numbers.

- COT (ART 0) – not barred.
- TIE (ART 1) – is barred from accessing 0, and 2.
- DID (ART 2) – is barred from accessing 0, 1, and 3.
- PAG/DIC (ART 3) – not barred.
- MDM (ART 4) – bars 0, and 2.

Set up the Route Category Default Table (RCDT)

- COT 0.
- TIE 1.
- DID 2.
- OTH 0 – MDM will initially be assigned ART 0 like DIC and PAG, but can be changed using the RART prompt.

LD 56 – Modify trunk barring Access Restriction Tables (ARTs).

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	TBAR	Add or change Access Restriction Table(s) (ARTs).
ART	(0)-63	Select ART to add or change. If ART table 0 is defined, no restrictions apply.
	<CR>	Return to REQ prompt.
DENY	yyy yyy	Enter ART numbers denied to Originating Trunk Connection (OTC).
	ALL	Deny all ARTs to OTC.
	xALL	All ART numbers allowed to OTC.
	Xyyy Xyyy	Enter ART numbers allowed to OTC, or change to remove previously blocked connections.
	<CR>	Return to REQ prompt with no table being stored.

LD 56 – Change, or print ART number for the route.

Prompt	Response	Description
REQ	CHG, PRT	Change or Print. Note: REQ = NEW, or OUT is disallowed for RART.
TYPE	RART	Change ART number for the route.
CUST	0	Customer number.
ROUT	(0)-127	Route number.
ART	(0)-63	ART to assign to route(s). If ART table 0 is defined, no restrictions apply.
	<CR>	Return to REQ prompt. ART remains unchanged.

LD 56 – Change, or print the route category default table.

Prompt	Response	Description
REQ	CHG, PRT	Change or Print. Note: REQ = NEW, or OUT is disallowed for RCDT.
TYPE	RCDT	Change the route category default table.
COT	(0)-63	COT, FEX, and WAT routes are assigned the entered ART when the route is created in LD 16.
DID	(0)-63	DID routes are assigned the entered ART when the route is created in LD 16.
TIE	(0)-63	CAA, CAM, CSA, and TIE routes are assigned the entered ART when the route is created in LD 16.
OTH	(0)-63	ADM, DIC, MDM, PAG, and RCD routes are assigned the entered ART when the route is created in LD 16.
	<CR>	Return to the REQ prompt.

Feature operation

No specific operating instructions are required by the user. Barring is implemented via service change by a qualified technician. If the connection is not allowed, intercept treatment defined by the ACCD prompt in LD 15 is implemented.

Trunk to Trunk Connection

The Trunk to Trunk Connection feature introduces the following capabilities: transfer on ringing of external trunk across the network, transfer of one supervised outgoing external trunk to another, conference of external trunks and outgoing trunk to trunk charging. These capabilities are available on an analog (500/2500 type) set, Meridian 1 proprietary set or an Attendant Console.

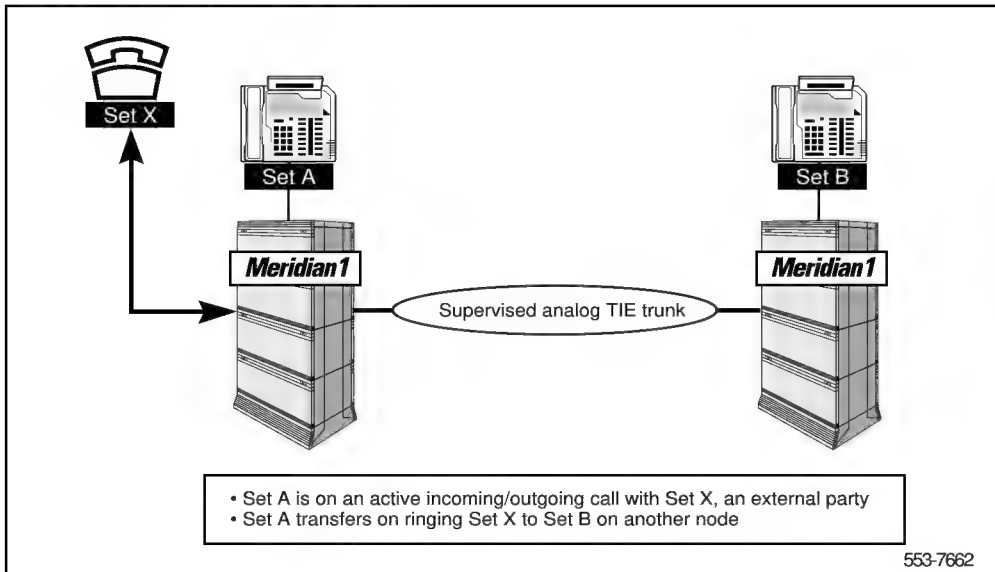
Transfer on Ringing of External Trunk over Network

Allows the transfer on ringing of an established external trunk call over a supervised analog network TIE trunk. If the called party does not answer within a specified time, the call will slow answer recall to the attendant on the transferring node. This capability ensures that available network resources are not occupied indefinitely.

Transfer of External Trunks

Allows the transfer of one outgoing external trunk to another trunk provided both calls are answered and both trunks have answer supervision.

Figure 15
Transfer on ringing of external call



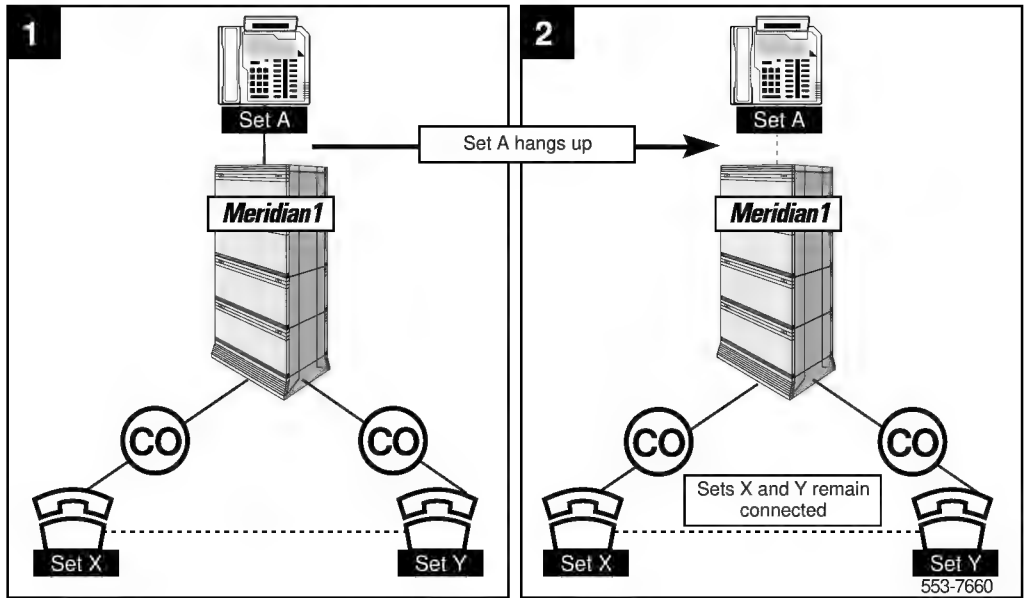
As illustrated in [Figure 15](#), Set A is on an incoming/outgoing call with Set X, an external trunk. Set A initiates a call transfer of Set X to Set B. With the Trunk to Trunk Connection feature, Set A can transfer on ringing without waiting for Set B to answer. If Set B does not answer the transferred call, the external trunk slow answer recalls to the attendant on the transferring node.

Conference of External Trunks

Allows external trunks to remain established in a conference call in circumstances when all external trunks involved in the call offer disconnect supervision.

[Figure 16](#) illustrates the Conference of External Trunk capabilities of this feature. Set A is on an established conference call with two or more external trunks, Set X and Set Y. When Set A disconnects during the conference, Set X and Set Y continue in the established call.

Figure 16
Conference of external trunks



Outgoing Trunk to Trunk Charging

Ensures that outstanding charging information, relevant to both outgoing calls, is contained in relevant Call Detail Recording records.

Operating Parameters

Slow answer recall occurs when an external trunk is transferred on ringing across an answer supervised network TIE trunk to a set that does not answer. However, the resulting recall will be to an attendant on the transferring node and not to the original set which transferred the call.

When transferring one outgoing trunk to another, it is required that the two external calls involved are both answered prior to completing the transfer. Both external trunks involved must have both answer and disconnect supervision.

When the last internal party disconnects from a conference call, involving 2 or more external trunks, all external trunks must have disconnect supervision for the call to remain established. If any one of the remaining external trunks does not have disconnect supervision, all external trunks will be dropped.

No change is made to existing VNS operation.

Feature interactions

Busy Tone Detection for Japan

Busy Tone Detection for Japan does not impact Trunk to Trunk Connection. However, which ever occurs first prevails.

Call Transfer

To transfer an external trunk on ringing across a supervised analog network TIE trunk, the external trunk and internal TIE line must have both answer and disconnect supervision, and the external call must be established. To transfer one outgoing external trunk to another, both external trunks must have answer and disconnect supervision, and both external calls must be established.

Centralized Answering Position

The Option 11C system may not have an actual attendant console. Instead, the Option 11C will use Centralized Answering Position (CAP). The CAP Directory Number (DN) is the customer Night DN. Since no attendant is configured, the customer is viewed to be in Night Service and any calls for the attendant are directed to the CAP. Slow Answer Recall may be presented to a CAP when no attendant console is configured for the customer.

Conference

Trunk to Trunk Connection allows external trunks to remain established in a call, provided that all external trunks involved have disconnect supervision. With respect to charging costs associated with a conference call, once the last set involved in the conference call disconnects, a search is made of all remaining trunks in the call to determine which call is established in the call for the longest period of time. This trunk is the chargeable Terminal Number (TN). This process is repeated to find the next chargeable TN.

Multi-Party Operations - Ringing No Answer

In a standalone environment, the RGNA prompt in the Customer Data Block will be used when an external trunk is transferred on ringing and the called party does not answer. In a network environment, the RTIM timer value in the Customer Data Block will be used for slow answer recall.

Message Registration

The last party releasing the call collects the total value of outstanding Periodic Pulse Metering (PPM) generated on outgoing trunks. If the last party is an internal set, the outstanding PPM is stored against the meter of the set. If the last party is an internal TIE trunk, the outstanding PPM is stored against the meter associated with the internal TIE trunk access code. If the last party is an outgoing external trunk, the outstanding PPM is stored against the meter associated with the external trunk access code.

Night Service

If an attendant is placed in Night Service, calls to the attendant are directed to a station with the Night DN. Recalls are not directed to the Night DN. Recalls are put in the attendant call waiting queue when in Night Service.

Night Service Enhancement

Recalls made while the attendant is in Night Service are routed to the Night DN, if the original call is an external call. In such a case, the destination party is disconnected, the internal network trunk is released and the original extended call is presented to the Night DN. If the original call is internal, recalls are put in the attendant call waiting queue when in Night Service.

Trunk Barring**Trunk Group Access Restriction**

Trunk Barring and Trunk Group Access Restriction takes precedence over the Trunk to Trunk Connection feature.

Feature packaging

Trunk to Trunk Connection is included in base system software.

Note: DID to TIE (DTOT) for Japan package 176 must be restricted to enable this feature.

Feature Implementation

LD 15 – Modifications to Customer Data Block.

Prompt	Response	Description
REQ:	CHG	Change.
TYPE:	ATT	Attendant console prompts.
CUST	0	Customer number.
RTIM	xxx yyy zzz	Enter defined value for the Slow Answer Recall timer where: xxx = 0-(30)-378 Slow Answer Recall yy y= 0-(30)-510 Camp On Recall zzz = 0-(30)-510 Call Waiting Recall

LD 15 – Modifications to Customer Data Block

Prompt	Response	Description
REQ:	CHG	Change
TYPE	NET	Trunk and network options.
CUST	0	Customer number.
...		
ISDN	YES	Change the Integrated Services Digital Network options.
- PSTN	NO	Public Switched Telephone Network. Limit the number of PSTN's allowed in a network connection to one PSTN. NO= Puts no limit on the number of PSTN connections. YES = Limits the number of PSTN connections.
...		

TRNX	YES	YES = Allows transfer on ringing of an external trunk over a supervised analog network TIE trunk across private network. NO= Prevents transfer on ringing of an external trunk over a supervised analog network TIE trunk across private network.
EXTT	YES	YES = Allows connection of supervised external trunks. NO = Prevents connection of supervised external trunks.

Feature operation

No specific operating procedures are required to use this feature.

Trunk Traffic Reporting Enhancement

The following modifications to trunk traffic reporting have been implemented to improve the accuracy of TFC002 traffic reports. The options are selected in the Configuration Data Block.

Traffic Period Option

Without enabling this option, trunk usage added its entire duration into the traffic period in which the disconnection occurred. If the duration was longer than 36 CCS (CCS = 100 call seconds), but less than 50 CCS, a TFS401 message was output. However, that duration was still accumulated and included in the traffic reports. If the duration was longer than or equal to 50 CCS, a TFS402 message was output. This duration was not accumulated, and was excluded from the traffic reports.

The Traffic Period Option enables the CCS to be reported in each traffic report interval. The peg count still is reported at disconnect time as per existing operation.

Note that when the Traffic Period Option is first enabled, the first traffic report may get some TFS403 messages.

Trunk Seizure Option

Without enabling this option, Meridian 1 Option 11C Compact traffic statistics began accumulating when a call was established. Meridian 1 Option 11C Compact software determined that the call was established when one of the following occurred: the End-of-Dialing (EOD) timer timed out after the last digit was dialed; the pound key (#) was dialed; or answer supervision was received. In some situations, customers could not match Meridian 1 Option 11C Compact traffic reports with their carrier reports, because many carriers start accumulating statistics when a trunk is seized.

The Trunk Seizure Option provides the ability to start accumulating statistics upon trunk seizure, rather than when the call is established.

Operating parameters

If the duration of a call is less than two to four seconds, the peg count is not accumulated. This functionality only applies when the trunk seizure option is enabled.

Due to the accumulation at trunk seizure, peg counts may occur even if a call is unanswered.

Feature interactions

Automatic Call Distribution (ACD)

A trunk call to an ACD DN will only be considered established once this call is answered. It is not considered established while the call is waiting in the ACD queue. Therefore, at the end of a traffic period, if a trunk call is in the ACD queue, the Traffic Period Option will not accumulate the duration for this call.

Note that when the duration is accumulated at disconnect or at the end of a traffic period after this call is answered, the total duration including the time the call was in the ACD queue is accumulated. This total duration may be longer than a single traffic period due to the time in the ACD queue and a TFS401, TFS402, or TFS403 message may be output.

Music Trunks

The Trunk Seizure Option is not supported on Music trunks.

Recorded Announcement (RAN) Trunks

The Trunk Seizure Option is not supported on RAN trunks.

Traffic Monitor

The Traffic Monitor feature outputs certain traffic data approximately every minute.

The trunk usage and peg count output by the Traffic Monitor feature can be enhanced by enabling the Trunk Seizure Option. The accumulated duration and peg count of a call will begin at trunk seizure time instead of at the time the call was established.

The Traffic Monitor output that starts during the same time that the regular traffic report starts is impacted if the Traffic Period Option is enabled. With this option enabled, the duration of all currently established calls is accumulated at the end of the traffic period. Therefore, this additional duration is also accumulated in the next minute's traffic monitor output. For example, the Traffic Monitor feature and the Traffic Period Option are both enabled. Regular traffic reports are output every half hour. The difference in the accumulated duration from 10:29 to 10:30 may increase dramatically due to the additional durations accumulated for currently established calls at the end of this traffic period.

Feature packaging

Trunk Traffic Reporting Enhancement is included in base system software.

Feature implementation

LD 17 – Both options can be allowed or denied on a system-wide basis using this overlay.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	PARM	Gate opener.
...		
- TPO	(NO), YES	Traffic Period Option. Enter YES to enable, NO to disable, and <CR> to keep the current value.
- TSO	(NO), YES	Trunk Seizure Option. Enter YES to enable, NO to disable, and <CR> to keep the current value.

Feature operation

No specific operating procedures are required to use this feature.

Trunk Verification from a Station

Trunk Verification from a Station (TVS) provides the capability for a classmarked 2500-type telephone (i.e., basic push-button set having no feature keys) to seize a particular trunk within a trunk group, receive a dial tone, and outpulse digits to complete a call to a remote maintenance site. This feature is used as part of a PC-based Network Management system to allow physical testing of each trunk in the network.

Any compatible, customer-provided PC-based analog (500/2500 type) administration and maintenance system accesses the trunk to be tested and calls a remotely located customer-provided responder. The responder supplies the various tones needed to perform the trunk test. The PC then stores and processes the results. Once the testing is complete, the PC disconnects from the tested trunk and accesses the next trunk in the route.

To the system, the PC appears as a 2500-type telephone, which requires the capability to seize a particular trunk member within a trunk route.

Operating parameters

It is recommended that the telephone with a Trunk Verification Allowed (TVA) Class of Service also have CFW All Calls To External DN Denied (CXFD), CFW Busy Denied (FBD), and CFW No Answer Denied (FND) Classes of Service. This setup prevents any restricted telephone from accessing trunks by calling the TVA telephone and subsequently getting transferred or forwarded.

Also, it is strongly recommended that this unit not be configured with an LPA. This will prevent the unit from initiating the PBXT (test message waiting lamps) command in LD 32.

The telephone with a Trunk Verification Allowed (TVA) Class of Service should also be assigned Warning Tone Denied (WTD) Class of Service. This will prevent Attendant Busy Verification, which could impair the trunk frequency measurements that take place during a TVS call. This also prevents the trunk that this telephone has seized from being barged into by the attendant.

Trunk Verification from a Station is not applicable to B-channels on digital links.

When using the Trunk Verification feature to test network trunks, any trunk state other than an idle, such as busy, disabled or maintenance busy, an overflow tone is returned.

Feature interactions

The environment in which the TVS feature will be invoked is a machine environment. That is, the user of the 2500-type telephone with this feature will usually be a PC-based maintenance system. Therefore, minimal interaction exists with other features.

When the 2500-type telephone with a TVA Class of Service makes a TVS call, any Trunk Group Access Restrictions/Trunk Access Restriction Groups (TGAR/TARG) defined in the system are removed for this call.

When a trunk group is busied out by an Attendant Console, access to that trunk group is not allowed with the TVS feature.

Feature packaging

Trunk Verification from a Station (TVS) is package 110 and has no feature package dependencies.

Feature implementation

LD 10 – Allow or deny Trunk Verification from a 2500 telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(TVD), TVA DTN	(Deny) allow TVS. Digitone service is required for 2500 telephones.

Feature operation

To verify that a trunk is working properly (from a 2500 telephone with TVA Class of Service), follow these steps:

- 1 Lift the handset.
- 2 Dial SPRE + 70 + ACOD + mmm

where:

SPRE is the special function access prefix
70 is the special access code for the TVS feature
ACOD is the access code of the trunk group to be tested, and
mmm is the number of the trunk member that is to be seized; mmm must be three digits (e.g., 001).

Uninterrupted Line Connections

Uninterrupted Line Connections are connections assigned Warning Tone Denied (WTD) Class of Service. The feature prohibits the imposition of any Camp On or intrusion tones on that line.

This feature is recommended for modem or data lines.

Operating parameters

There are no feature requirements.

Feature interactions

Attendant Barge-In
Busy Verify
Override

These features cannot be applied to stations with a WTD Class of Service.

Camp-On

A call can be camped on to a station with a WTD Class of Service, but tone is not provided.

Feature packaging

The Uninterrupted Line Connections feature is included in base system software.

Feature Implementation

LD 10 – Assign Warning Tone Allowed for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(WTA), WTD	Warning tone (allowed) denied.

LD 11 – Assign Warning Tone Allowed for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(WTA), WTD	Warning tone (allowed) denied.

LD 14 – Assign Warning Tone Allowed for trunks.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaa	Trunk type.
TN	c u	Terminal Number.
CLS	(WTA), WTD)	Warning tone (allowed) denied.

Feature operation

No specific operating procedures are required to use this feature.

User Selectable Call Redirection

User Selectable Call Redirection (USCR) enhances the implementation of several existing features. First, it enables the user to modify DNs at the telephone for the following redirections:

- Flexible Call Forward No Answer DN (FDN)
- Hunt DN (HUNT)
- External Flexible Call Forward No Answer DN (EFD), and
- External Hunt DN (EHT).

The Station Control Password feature must be active, with passwords defined in LD 15, for the user to change these redirection DNs.

Second, it expands the number of selectable Ringing Cycle Options (RCOs) for Flexible Call Forward No Answer (CFNA) from one to three.

User assignment of redirection DNs

USCR permits the user to modify the redirection DNs for FDN, HUNT, EFD, and EHT from a rotary, push-button, or digital telephone.

Depending on the type of telephone, there are three ways to access this feature: using a Special Service Prefix Code (SPRE 9915), a Flexible Feature Code (FFC), or the User Selectable Redirection (USR) key.

The user can also change the RCO from a telephone after accessing USCR. For security reasons, the user must enter the Station Control Password (SCPW) before changing the redirection DNs or the RCO.

Ringing Cycle Options (RCOs) for CFNA

The original implementation of Call Forward No Answer provided a single option (CFNA in LD 15) that defined the number of normal ringing cycles before CFNA treatment. The value could be in the range of 1-15, with a default of 4. This value determined how many times the telephone rang before CFNA treatment was initiated.

The CFNA prompt is now replaced with prompts CFN0, CFN1, and CFN2, each of whose value can be in the range of 1-15, with a default of 4. The number of distinctive ringing cycles for CFNA is also expanded. The DFNA prompt in LD 15 is replaced with DFN0, DFN1, and DFN2, with the same value range and default.

Additionally, the Ringing Cycle Option (RCO) prompt appears in LD 10 and 11 for each telephone. Its value, in the range of 0-2, is a pointer to the CFNx and DFNx entries in the Customer Data Block. The following chart explains the relationship of the RCO value and the CFNx and DFNx entries in the Customer Data Block.

Table 27
Relationship between RCO value and CFNx, DFNx contents

An RCO value (per telephone) of	Selects these CFNA and DFNA entries (with sample contents shown)	And has this effect
0	CFN0 (Default value of 4) DFN0 (Value set to 2)	CFNA treatment after four rings CFNA treatment after two distinctive rings
1	CFN1 (Value set to 6) DFN1 (Value set to 5)	CFNA treatment after six rings CFNA treatment after five distinctive rings
2	CFN2 (Value set to 3) DFN2 (Default value of 4)	CFNA treatment after three rings CFNA treatment after four distinctive rings

Operating parameters

To assign or print the RCO for a telephone requires that it have the Flexible Call Forward No Answer Allowed (FNA) Class of Service or Message Waiting Allowed (MWA) Class of Service.

The user's telephone must have User Selectable Redirection Allowed (USRA) Class of Service and a Station Control Password (SCPW). The user must enter the correct password to access USCR.

Basic Rate Interface (BRI) telephones do not support USCR because they cannot access SPRE or FFC, and have no feature keys. Therefore, BRI telephones will always use the entries for CFN0 and DFN0.

The user cannot use USCR to initially configure call redirection features. The features must be equipped, and the initial call redirection DN's must be established, via a service change.

This feature cannot be used remotely. A user can only change redirection DN's or the RCO for the telephone being used to access USCR.

Feature interactions

Attendant Administration

Attendant Administration does not support assigning the USR key, RCO, or USRA/USRD Class of Service.

Autodial

USCR does not support Autodial; Autodial cannot be used to dial all or part of the digits for USCR programming.

Call Forward All Calls

When CFW redirects a call from telephone A to telephone B, and telephone B does not answer, the RCO of telephone B determines how long it rings. After the designated number of rings, the FDN of telephone A redirects the call.

Call Forward by Call Type (CFCT)

USCR enables a user to assign EFD from the telephone.

Call Forward No Answer

Flexible Call Forward No Answer

The single parameters previously used to define normal ringing cycles (CFNA) and distinctive ringing cycles (DFNA) are expanded to three (CFN0-2 and DFN0-2), with the Ringing Cycle Options (RCO) parameter used to select the specific CFNA and DFNA entries for each telephone.

Call Forward No Answer, Second Level (SFA)

The number of ringing cycles before SFA is determined by the RCO for the ringing DN, as with CFNA.

Call Redirection by Time of Day

Call Redirection by Time of Day is not supported.

Dial Access to Features and Services

The 9915 feature code accesses USCR from an analog (500/2500 type) or a Meridian 1 proprietary telephone. The user dials this code after dialing the SPRE.

Distinctive

New Distinctive Ringing

The single parameter previously used to define distinctive ringing cycles (DFNA) is expanded to three (DFN0-2), with the Ringing Cycle Options (RCO) parameter used to select the specific DFNA entry for each telephone.

DPNSS1 Diversion

The User Selectable Call Redirection feature triggers Diversion Validation. If the numbering plan is DPNSS1 then diversion occurs. Numbering plan routes are checked to determine if redirection DN's are through DPNSS1 on a first choice route basis. If the number plan is not a DN through DPNSS1, then User Selectable Call Redirection works as usual.

Enhanced Hot Line

Flexible Hot Line

An analog (500/2500 type) (500/2500) telephone with a Hot Line feature cannot use USCR, because it cannot access any features through SPRE or FFC.

Hunting

USCR permits a user to alter the HUNT DN or EHT from a telephone.

Message Center (MC) and Message Waiting

USCR affects the number of times the DN rings before the call is forwarded to the Message Center. The RCO in the Terminal Number (TN) block of the Multiple Appearance Redirection Prime (MARP) for the called DN determines the number of times the DN rings.

Multiple Appearance Redirection Prime (MARP)

When a Multiple Appearance DN is rung, the determination of the number of ringing cycles for CFNA depends on the value of the MARP prompt in LD 17. If the value is “YES,” the number of ringing cycles is determined by the RCO number of the DN that is classified as a MARP TN. If the DN is a Multiple Appearance DN (MADN), the RCO values in the other TN blocks for that DN are ignored.

If the MARP value is “NO,” the RCO is taken from the first TN in the DN block with a primary appearance of the DN. If there is none, the last TN in the DN block is used.

Pretranslation

If Pretranslation (package 92) is enabled, the digits entered as the redirection DN are pretranslated before they are stored. Note that no Pretranslation occurs when the redirection DNs are used in such call processing features as Hunting or CFNA, eliminating the possibility that the redirection DN is pretranslated twice.

Short Hunting

USCR does not support changing the HUNT or EHT for a telephone with Short Hunt enabled. USCR also does not support entering “000” from a telephone as the HUNT.

Speed Call

Speed Call is not supported by USCR.

Feature packaging

Flexible Feature Codes (FFC) package 139 is a prerequisite for the user activation part of this feature because it provides for the Station Control Password.

Feature implementation

Responses to the LD prompts shown in the following tables set up USCR. Responses differ depending on the type of telephone and the type of access being set up.

LD 15 – Setting up USCR in the Customer Data Block.

Prompt	Response	Description
REQ	NEW, CHG	ADD, or change.
TYPE	CDB RDR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- CFN0	1-(4)-15	Number of normal rings for CFNA, Option 0.
- CFN1	1-(4)-15	Number of normal rings for CFNA, Option 1.
- CFN2	1-(4)-15	Number of normal rings for CFNA, Option 2.
- DFN0	1-(4)-15	Number of distinctive rings for DFNA, Option 0.
- DFN1	1-(4)-15	Number of distinctive rings for DFNA, Option 1.
- DFN2	1-(4)-15	Number of distinctive rings for DFNA, Option 2.
TYPE	FFC	Gate opener.
...		
- SCPL	(0-8	Length of Station Control Password. If 0 = password disabled, USCR cannot be used.

LD 10 – Setting up USCR for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	500	Telephone type.
RCO	(0), 1, 2	Ring Cycle Option for CFNA, in the range of 0-2, with a default of 0.
SCPW	xxx...xx	Station Control Password.
CLS	(USRD), USRA	User Selectable Redirection Class of Service (permitting SPRE and FFC access) (denied) allowed.
Note: The technician can use easy change to change the RCO and USRA/USRD CLS. At the ITEM prompt, type RCO <value> where the value is 0-2.		

LD 11 – Setting up USCR for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
RCO	(0), 1, 2	Ring Cycle Option for CFNA, in the range of 0-2, with a default of 0.
SCPW	xxx...xx	Station Control Password.
CLS	(USRD), USRA	User Selectable Redirection Class of Service (permitting SPRE, FFC, and USR key access) (denied) allowed.
KEY	xx USR	Key number of the USR key.
Note: The technician can use easy change to change the RCO and USRA/USRD CLS. At the ITEM prompt, type RCO <value> where the value is 0-2.		

LD 57 – Setting up USCR.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
CUST	0	Customer number.
CODE	USCR, ALL	Prompt for USCR FFC, or all FFC code types.
USCR	xxxxxxx	USCR FFC (1-7 digits).
	yyyyyyy	Define additional FFC codes, as needed.
	<CR>	Ends the entry of FFC codes.

Feature operation

As a prerequisite to accessing the feature, the conditions shown in [Table 28](#) must be met for the selected access method.

Table 28
Requirements for accessing USCR

Requirement	Access Method		
	USR Key	SPRE	FFC
FFC package equipped	Yes	Yes	Yes
SCPL is defined (>0)	Yes	Yes	Yes
SCPW is defined	Yes	Yes	Yes
Telephone has USR key	Yes	No	No
USRA Class of Service defined	Yes	Yes	Yes
SPRE defined	No	Yes	Yes
USCR FFC defined	No	No	Yes

To assign/query a redirection DN using SPRE:

- 1 Take the telephone off-hook, or press the DN key on a digital telephone.
- 2 Enter the SPRE.
- 3 Enter the USCR feature access code (9915).
- 4 Enter the Station Control Password.
- 5 Enter the USCR option code, as shown in [Table 29](#).

Table 29
USCR option codes

Code	Used to assign
1	FDN redirection DN
2	HUNT redirection DN
3	EFD redirection DN
4	EHT redirection DN
5	RCO

- 6 Enter the new RCO if assigning the RCO; enter the redirection DN if assigning the DN.
- 7 Place telephone on-hook, or press the RIs key on a Meridian 1 proprietary telephone.

To assign or query a redirection DN using the USR key:

- 1 Press the dark USR key.
- 2 Enter the Station Control Password.
- 3 Enter the USCR option code from [Table 29](#).
- 4 Enter the new RCO if assigning the RCO; enter the redirection DN if assigning the DN.
- 5 Press the USR key again.

To assign or query a redirection DN using an FFC:

- 1** Take the telephone off-hook, or press the DN key on a Meridian 1 proprietary telephone.
- 2** Enter the USCR FFC.
- 3** Enter the Station Control Password.
- 4** Enter the USCR option code, as shown in Table [29](#).
- 5** Enter the new RCO if assigning the RCO; enter the redirection DN if assigning the DN.
- 6** Place telephone on-hook, or press the Rls key on a Meridian 1 proprietary telephone.

Voice Call

Voice Call allows you to talk through the speaker of a Meridian 1 digital telephone from another Meridian 1 digital telephone. The called party does not have to lift the handset to hear you. For a two-way conversation, the called party must lift the handset or activate Handsfree, unless Handsfree Voice Call is enabled.

If the called telephone is busy on another DN, the caller hears continuous ringing. The called party hears a single beep and the Voice Call DN key flashes. If the telephone is busy on the Voice Call DN, the caller hears a busy tone. A fast busy tone may indicate that the Voice Call DN is no longer available (it may not be a Single Appearance DN).

Handsfree Voice Call

Handsfree Voice Call is a system feature that can be used with such telephones as the M2112, M2317, and M2616.

Handsfree Voice Call provides the option of configuring VCC/DIG (with voice option) to be answered in either Handsfree mode or loudspeaker only mode. Calls answered in Handsfree (HVA) mode establish a two-way voice path, while those answered in loudspeaker only (HVD) mode establish a one-way voice path from the calling telephone to the destination telephone.

Operating parameters

Both telephones must be Meridian 1 digital telephones.

The Voice Call DN must be single appearance.

Handsfree Voice Call allowed/denied is set at the system level and can only be used with digital telephones that have Handsfree capabilities (such as the M2112, M2317, M2616). It requires Handsfree Allowed/HFA Class of Service on the destination telephone, which is set at the telephone level. Basic Rate Interface (BRI), M3000, and SL-1 telephones do not support the Handsfree feature.

Feature interactions

Auto Answer Back (AAB)

This feature is not affected by the Handsfree Voice Call feature.

Flexible Voice/Data Terminal Number

If a dynamic TN has a single appearance DN key that terminates on a Voice Call (VCC) key, the called party hears a single beep if occupied on another DN. However, if the called party is a dynamic TN in data mode, the DN key lamp flashes. A beep is not provided.

Manual Signaling

The same DN can be used for both Voice Call and Manual Signaling (Buzz) as long as it remains a Single Appearance DN.

Multiple Appearance DNs

If a Voice Call DN is added to a second telephone, the DN becomes a Multiple Appearance DN (MADN). Voice Call no longer works on that DN and fast busy tone is returned.

Feature packaging

Voice Call requires the Optional Features (OPTF) package 1.

Feature implementation

LD 11 – Add or change Voice Call for the originating Meridian 1 proprietary telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx SCR yyy...y	Adds a single appearance single call key on the terminating telephone, where: xx = key number, and yyy...y = the DN assigned to the Voice Call key for the originating telephone.
KEY	xx VCC yyy...y	Adds a Voice Call key on the originating telephone, where: xx = key number, and yyy...y = the DN of the terminating telephone. This key activates the feature.

LD 15 – Add or change Handsfree Voice Call for the Meridian 1 system.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(HVD), HVA	Handsfree Voice Call (denied) allowed.

Feature operation

Voice Call

To make a Voice Call:

- Lift the handset and press **Voice Call**. The DN is automatically dialed. If the called telephone is busy on another DN, you hear continuous ringing. If the telephone is busy on the Voice Call DN, you hear busy tone.

To end a Voice Call:

- Press **Rls**.

To answer a Voice Call on an idle telephone:

- Let the call ring once. The call is answered automatically, activating the Voice Call DN over the speaker. For a two-way conversation, lift the handset.

If busy on another DN, you hear a single beep and the Voice Call DN flashes. You must end your present call to receive the Voice Call.

Handsfree Voice Call

HVA option

The originating telephone (telephone A) places a VCC/DIG call to the destination telephone (telephone B).

- 1 Telephone B rings once.
- 2 After one ring, telephone B automatically answers the call in Handsfree mode.

The DN and Handsfree LCDs are lit and a two-way voice path is established.

HVD option

Telephone A places a call to telephone B.

- 1** Telephone B rings once.
- 2** After one ring, telephone B automatically answers the call in loudspeaker only mode.

The DN LCD is lit and the Handsfree LCD remains dark, establishing a one-way voice path from telephone A to telephone B. At this point, telephone A is unable to hear the person at telephone B.

To reestablish a two-way voice path, telephone B must either go off-hook or press the Handsfree button.

Note: Busy calls are not changed by Handsfree Voice Call.

500 Telephone Features

This feature allows 500-type (rotary dial) telephones to use Call Forward, Speed Call, and Permanent Hold. Since 500-type telephones do not have an octothorpe (#), the following features are activated by dialing SPRE and a two-digit access code.

— System Speed Call	SPRE + 73
— Meridian 1 Option 11C Compact Call Forward All Calls	SPRE + 74
— Speed Call Controller	SPRE + 75
— Speed Call User	SPRE + 76
— Permanent Hold	SPRE + 77

Operating parameters

Allow or deny these features in LD 10.

Except for the SPRE codes used, feature operation is the same as with Meridian 1 proprietary telephones.

Feature interactions

2500 Telephone Features

When Special Service for 2500 Sets (SS25) package 18 is equipped, 2500 telephones also access the above listed features by dialing the SPRE and a two-digit access code.

Feature packaging

500 Set Dial Access to Features (SS5) package 73 requires Special Service for 2500 Sets (SS25) package 18.

Feature Implementation

LD 10 – Enable 500 Telephone Features.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(XFD), XFA	(Deny) allow transfer.
FTR	CFW xx	Call Forward All Calls and DN length (4-23). Enter X CFW to remove.
	SCC xxxx	Speed Call Controller and list number. Enter X SCC to remove.
	SCU xxxx	Speed Call User and list number. Enter X SCU to remove.
	SSU xxxx	System Speed Call User and list number. Enter X SSU to remove.
	PHD	Allow Permanent Hold. Enter X PHD to remove.

Feature operation

Call Forward All Calls

To forward your calls, follow these steps:

- 1 Lift the handset and dial SPRE + 74. You hear dial tone.
- 2 Dial the DN to where you want your calls forwarded.
- 3 Hang up.

To cancel forwarding, follow these steps:

- 1 Lift the handset and dial SPRE + 74. You hear dial tone.
- 2 Hang up.

Speed Call Controller

To update a predefined Speed Call list, follow these steps:

- 1** Lift the handset and dial SPRE + 75. You hear dial tone.
- 2** Dial the Speed Call code (0-999), followed by the telephone number it represents. If the entry is accepted, you hear silence. If the entry is not accepted, you hear fast busy tone.
- 3** Hang up.

To change a number associated with a list, follow these steps:

- 1** Lift the handset and dial SPRE + 75. You hear dial tone.
- 2** Dial the Speed Call code (0-999), followed by the new telephone number. The new number automatically replaces the old one. If the entry is accepted, you hear silence. If the entry is not accepted, you hear fast busy tone.
- 3** Hang up.

To remove an entry in a Speed Call list, follow these steps:

- 1** Lift the handset and dial SPRE + 75. You hear dial tone.
- 2** Dial the Speed Call code (0-999) you want to remove.
- 3** Hang up.

Speed Call User

To make a Speed Call, follow these steps:

- 1** Lift the handset and dial SPRE + 76. You hear dial tone.
- 2** Dial the Speed Call code (0-999).
- 3** The number is dialed automatically.

System Speed Call User

To make a System Speed Call, follow these steps:

- 1** Lift the handset and dial SPRE + 73. You hear dial tone.
- 2** Dial the System Speed Call code (0-999).
- 3** The number is dialed automatically.

Permanent Hold

To activate Permanent Hold while active on a call, follow these steps:

- 1** Flash the switchhook. You hear dial tone.
- 2** Dial SPRE + 77.
- 3** Hang up.

The call remains on hold until you lift the handset again or the other party disconnects.

500/2500 Line Disconnect

500/2500 Line Disconnect

500/2500 Line Disconnect is invoked when the Meridian 1 Option 11C Compact system detects on-hook/disconnect supervision from a party connected to a 500/2500 type port. Dial tone is sent to this port for a specified period of time (the default is six seconds) which is defined in LD 15 at the Line Disconnect Tone Timer (LDTT) prompt. Refer to the feature implementation for a list of LD 15 prompts.

It is used when the 500/2500 type port is connected to an automated attendant or voice mail. It allows the Meridian 1 Option 11C Compact system to know that it is not connected to a telephone, and to disconnect if the other telephone has hung up (e.g., during an automated message or a voice mail message).

Figure 17 illustrates how an incoming trunk call or internal call functions with 500/2500 Type Line Disconnect.

This illustration shows the incoming trunk call or internal call disconnected and dial tone being provided by the 500/2500 type port with the new Class of Service (CLS) Line Disconnect Tone Allowed (LDTA).

Figure 17
Incoming Trunk Call of Internal Call Disconnects

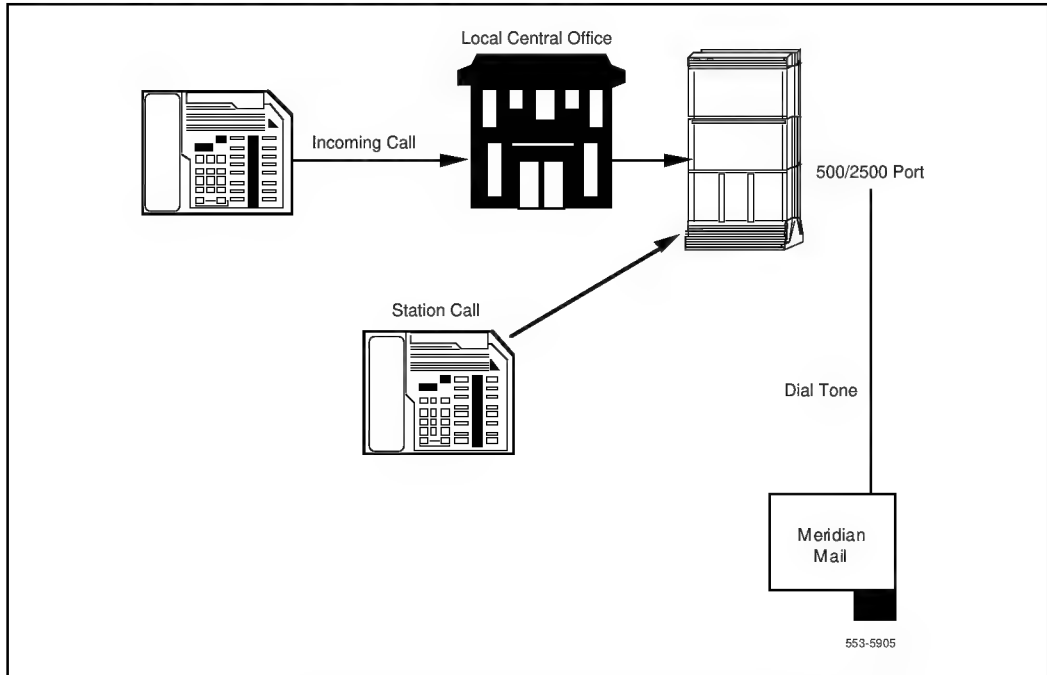


Figure 18 illustrates how an outgoing call functions with this feature.

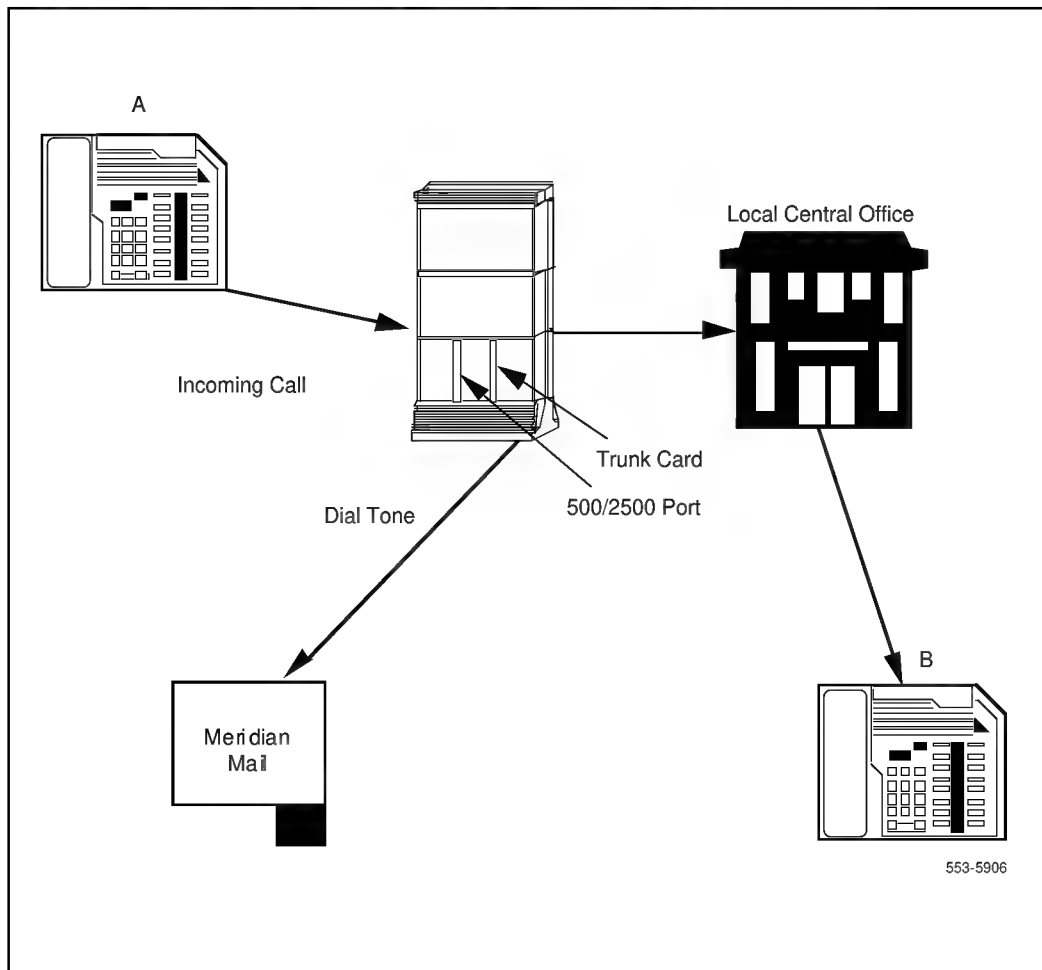
This illustration shows an outgoing call from the Meridian 1 Option 11C Compact system to the Central Office. Station A transfers Station B to Meridian Mail and goes on-hook. When Station B disconnects dial tone is provided by the 500/2500 type port with the new Class of Service LDТА.

Operating parameters

A 500/2500 port with LDТА Class of Service receives disconnect tone in the following cases:

- an incoming internal call is placed to an LDТА port and then disconnects

Figure 18
Outgoing Call from the Meridian 1 Option 11C Compact to a Central Office



- incoming call from a trunk with disconnect supervision is placed to an LDTA port and then the incoming trunk disconnects, or
- an internal DN places an outgoing call on a trunk with disconnect supervision, then transfers the call to the LDTA port and then the trunk disconnects.

Line Disconnect Tone is not provided on outgoing calls from the LDTA port.

Feature interactions

Conference

No Hold Conference

If one of the parties in the conference is connected to a 500/2500 port that is in turn connected to a Voice Response Unit (VRU), dial tone is provided to the 500/2500 port when all the other parties in the conference disconnect. This feature enhancement applies in the same way to Call Transfer and Hunting.

Attendant Extended Call

500/2500 Line Disconnect applies if the attendant extends a call to a 500/2500 port that is connected to a VRU; or the attendant extended a call to a 500/2500 port that is connected to a VRU and remains in the call, and the other party has disconnected.

500/2500 Automatic Call Distribution (ACD) agent

If a call is involved with a 500/2500 ACD agent that is connected to a VRU and the other party has disconnected, 500/2500 Line Disconnect applies. When the other party disconnects, the 500/2500 agent will be returned to the idle agent queue.

Feature packaging

500/2500 Line Disconnect is included in base system software.

Feature implementation

LD 10 – Allow Line Disconnect Tone for 500/2500 ports.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(LDTD), LDTA (WTA), WTD	(Deny) allow Line Disconnect Tone. (Allow) deny Warning Tone.

LD 15 – Specify the dial tone timer for 500/2500 ports.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	CDB TIM	Customer Data Block. Gate opener.
CUST	0	Customer number.
...		
- LDTT	2-(6)-30	Line Disconnect Tone timer for the 500/2500 port, in seconds.

Feature operation

No specific operating procedures are required to use the 500/2500 Line Disconnect feature.

500/2500 Line Disconnect for Outgoing Calls (Release 21)

When devices such as dictation machines are connected to a 500/2500 line port they rely on detecting a tone to indicate that the far end has released. This is necessary because the line conditions on a 500/2500 circuit do not change regardless of the status of the far end.

Currently, when a Meridian 1 Option 11C Compact detects an on-hook/disconnect supervision signal from a party on a trunk that provides disconnect supervision, and the trunk is connected to a 2500/500 port with the Line Disconnect Tone Allowed (LDTA) Class of Service, dial tone is sent for the time specified in the Customer Data Block. Thus, the device physically connected to the 500/2500 port disconnects itself and the line port as well. This functionality is used in applications requiring predictive dialing; however, previously it was limited to incoming calls.

The 500/2500 Line Disconnect for Outgoing Calls feature allows the 500/2500 Disconnect capability to encompass outgoing calls.

Operating parameters

This feature only works with internal calls or with trunks that provide disconnect supervision. If a trunk is used that does not have disconnect supervision, the Meridian 1 Option 11C Compact does not detect the far end disconnection and the release of the call is still dependent upon the internal timing of the Automated Dialing Equipment.

This feature only applies to Automated Dialing Equipment systems capable of recognizing dial tone as a disconnect signal.

When a 500/2500 port is receiving a disconnect dial tone, it is not possible to dial a number. Dial tone cannot be broken. The port has to be released before dialing out.

Feature interactions

Attendant Extended Call

The 500/2500 Line Disconnect for Outgoing Calls feature applies if an attendant extends a call originated from a 500/2500 line port with LDTA Class of Service to a trunk or an internal extension, and the attendant has disconnected from the call. When the far end disconnects and this is a simple call, dial tone is provided to the 500/2500 line port.

Call Forward All Calls
Call Forward No Answer
Call Forward Busy
Call Forward by Call Type

The 500/2500 Line Disconnect for Outgoing Calls feature applies if a call originated from a 500/2500 line port with LDTA Class of Service is Call Forwarded to a trunk or another internal extension.

Call Transfer

The 500/2500 Line Disconnect for Outgoing Calls feature applies if a call originating from a 500/2500 line port with LDTA Class of Service is transferred by the called party to a trunk or another internal extension.

Conference
No Hold Conference

If Automated Dialing Equipment is connected to an internal extension that uses transfer or conference to include a trunk or another internal extension in the call, dial tone will be provided to the 500/2500 port when all the other parties disconnect.

Hunting

The 500/2500 Line Disconnect for Outgoing Calls feature applies if a call originated from a 500/2500 line port with LDTA Class of Service reaches a busy set that hunts to a trunk or to another internal extension.

Tone to Last Party

With the Tone to Last Party (TLP) feature configured, tones given to sets, whether involved in an internal or external call, are defined in the Tone Tables defined for the customer. If the TLP timer in the tone table is set to zero, the feature is disabled. If the TLP timer has a value greater than zero, this feature is active for all analog (500/2500 type) sets at the customer location. The 500/2500 Line Disconnect feature takes precedence if the Tone to Last Party feature is enabled for a customer and the 500/2500 set has LDTA Class of Service.

500/2500 Automatic Call Distribution (ACD) Agents

If an Automated Dialing Equipment (ADE)/Voice Response Unit (VRU) is involved in a call with a 500/2500 ACD agent and the party disconnects, the ADE will be provided dial tone when the last party (except for the ADE/VRU) has disconnected.

Feature packaging

500/2500 Line Disconnect for Outgoing Calls feature is contained in base system software.

Feature implementation

Use the same implementation procedures as for the original 500/2500 Line Disconnect feature.

Feature operation

No specific operating procedures are required to use the 500/2500 Type Line Disconnect for Outgoing Calls feature.

2500 Telephone Features

This feature allows 2500 telephones (i.e., basic push-button sets having no feature keys) to access features otherwise available only on Meridian 1 proprietary telephones. By dialing an octothorpe (#) and a single-digit access code, 2500 telephones can access the following features:

- Call Forward All Calls Dial #1
- Speed Call Controller Dial #2
- Speed Call User Dial #3
- Permanent Hold Dial #4

Operating parameters

Allow or deny these features in LD 10.

Except for the access codes used, feature operation is the same as Meridian 1 proprietary telephones.

Feature interactions

500 Telephone Features

When 500 Set Dial Access to Features (SS5) package 73 is equipped, 2500-type telephones also access by dialing SPRE and a two-digit access code as follows:

- System Speed Call User SPRE + 73
- Call Forward All Calls SPRE + 74
- Speed Call Controller SPRE + 75
- Speed Call User SPRE + 76
- Permanent Hold SPRE + 77

Remote Call Forward

When Flexible Feature Codes (FFC) package 139 is defined and active on your system, a telephone provisioned for Call Forward in LD 10 can also Call Forward All Calls from a remote internal DN.

Feature packaging

Special Service for 2500 Sets (SS25) package 18 has no feature package dependencies.

Feature implementation

LD 10 – Enable 2500 Telephone Features.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(XFD), XFA	(Deny) allow transfer.
FTR	CFW xx	Call Forward All Calls and DN length (4-23). Enter X CFW to remove.
	SCC xxxx	Speed Call Controller and list number. Enter X SCC to remove.
	SCU xxxx	Speed Call User and list number. Enter X SCU to remove.
	SSU xxxx	System Speed Call User and list number. Enter X SSU to remove.
	PHD	Allow Permanent Hold. Enter X PHD to remove.

Feature operation

Call Forward All Calls

Case 1: FFC active, CFW not active

On a telephone with Flexible Feature Codes implemented, but without Call Forward currently active, use these steps to activate the feature:

- 1 Lift the handset and dial SPRE + 74. You hear dial tone.
- 2 Dial the DN where you want calls to be forwarded. The dial tone disappears.
- 3 Hang up to complete the activation.

To deactivate Call Forward, follow these steps:

- 1 Lift the handset and dial SPRE + 74. You hear dial tone.
- 2 Hang up to complete deactivation.

Case 2: FFC not active, CFW not active

On a telephone without Flexible Feature Codes or Call Forward currently Active, use these steps to activate the feature:

- 1 Lift the handset and dial #1. You hear dial tone.
- 2 Dial the DN where you want calls to be forwarded. The dial tone disappears.
- 3 Hang up to complete the activation.

To deactivate Call Forward, follow these steps:

- 1 Lift the handset and dial #1. You hear dial tone.
- 2 Hang up to complete deactivation.

Case 3: FFC active, CFW active

On a telephone with Flexible Feature Codes and Call Forward currently active, use these steps to deactivate the feature:

- 1 Lift the handset and dial #1. You hear confirmation tone.
- 2 Hang up to complete the deactivation.

To reactivate Call Forward, follow these steps:

- 1 Lift the handset and dial #1. You hear dial tone.
- 2 Dial the DN where you want calls to be forwarded. The dial tone disappears.
- 3 Hang up to complete the activation.

– or –

- 1 Lift the handset and dial #1. You hear dial tone.
- 2 Dial the DN where you want calls to be forwarded. The dial tone disappears.
- 3 Dial the EOD string. You hear a confirmation tone.
- 4 Hang up to complete the activation.

– or –

- 1 Lift the handset and dial #1. You hear dial tone.
- 2 Hang up to complete the activation. Calls are forwarded to the last Call Forward DN used by this telephone.

Speed Call Controller

To update a predefined Speed Call list, follow these steps:

- 1 Lift the handset and dial #2. You hear dial tone.
- 2 Dial the Speed Call code (0-999), followed by the telephone number it represents. If the entry is accepted, you hear silence. If the entry is not accepted, you hear a fast busy tone.
- 3 Hang up.

To change a number associated with a list, follow these steps:

- 1 Lift the handset and dial #2. You hear dial tone.
- 2 Dial the Speed Call code (0-999), followed by the new telephone number. The new number automatically replaces the old one. If the entry is accepted, you hear silence. If the entry is not accepted, you hear a fast busy tone.
- 3 Hang up.

To remove an entry from a Speed Call list, follow these steps:

- 1 Lift the handset and dial #2. You hear dial tone.
- 2 Dial the Speed Call code (0-999) you want to remove.
- 3 Hang up.

Speed Call User

To make a Speed Call, follow these steps:

- 1 Lift the handset and dial #3. You hear dial tone.
- 2 Dial the Speed Call code (0-999).
- 3 The number is dialed automatically.

System Speed Call User

To make a System Speed Call, follow these steps:

- 1 Lift the handset and dial SPRE 73. You hear a dial tone.
- 2 Dial the System Speed Call code (0-999).
- 3 The number is dialed automatically.

Permanent Hold

To activate Permanent Hold while on a call, follow these steps:

- 1 Flash the switchhook. You hear dial tone.
- 2 Dial #4.
- 3 Hang up.

The call remains on hold until you lift the handset again or the other party disconnects.

Meridian 1

Option 11C Compact

Features and Services Book 2 (G-Z)

Document Number: 553-3121-305

Document Release: Standard 1.0

Date: November 1997

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Revision history

November 1997

Issue 1.0, Standard

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Publication number: 553-3121-305

Document release: Standard 1.0

Date: November 1997

Printed in Canada

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